

THE IMPACT OF THE GLOBAL ECONOMIC AND FINANCIAL CRISIS ON CENTRAL EASTERN AND SOUTHEASTERN EUROPE (CESEE) AND LATIN AMERICA

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Abstract

This paper reviews the impact of the global economic and financial crisis on two distinct emerging market regions: Central, Eastern and Southeastern Europe (CESEE) and Latin America. Similar to other emerging economies, both regions were initially surprisingly resilient as the crisis gathered momentum. They were, however, both strongly affected by the sharp retrenchment in capital inflows and the collapse of global demand that followed the demise of Lehman Brothers in September 2008. Notwithstanding differences in the channels of transmission and the intensity of the propagation, the short-term outcome in 2009 was one of the deepest recessions in decades. As both regions differ in several important respects, the question arises how structural and institutional features as well as policies before and during the crisis have affected the transmission of global events to the two regions under review.

Keywords: Financial crisis, Central, Eastern and Southeastern Europe, Latin America.

JEL classification: F15, F32, G01, G15, G18, H30.

1 Introduction

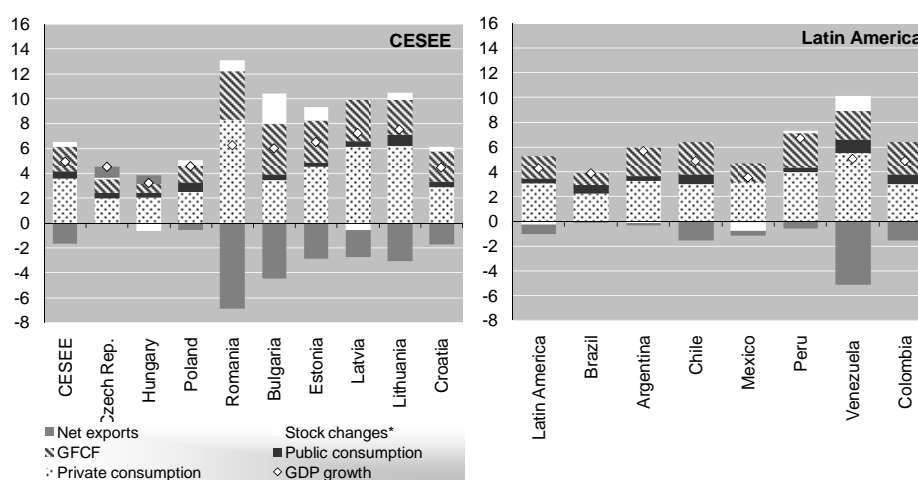
This paper looks at the impact of the global economic and financial crisis on two geographically distant and economically diverse emerging market regions: Central, Eastern and Southeastern Europe (CESEE) and Latin America.¹ Similar to other emerging economies, both regions were initially surprisingly resilient to the global crisis for over one year. However, they were both strongly affected by the sharp retrenchment in capital inflows and the collapse of global demand that followed Lehman Brothers' bankruptcy in September 2008. Although there were differences in the channels of transmission and the intensity of the propagation, the short-term outcome in 2009 has been one of the worst recessions in decades for both regions.

In this paper, we compare economic and financial developments in both regions during the crisis, paying due attention to their differences, but also finding remarkable similarities. In the run up to the global economic and financial crisis, both regions were experiencing booming economic conditions, with rapid GDP and credit growth. Average annual GDP growth between 2002 and 2008 was 5% in the CESEE region and 4.3% in Latin America (graph 1). Both regions were receiving large capital inflows on the back of easy global liquidity conditions and favourable growth prospects. Economic growth was led by domestic demand, with private consumption providing the largest positive contribution to GDP growth, followed by investment. Net exports contributed negatively to GDP growth, in particular in the CESEE countries (-1.6% per annum on average in CESEE, however with very wide cross-country variation, and -0.8% in Latin America). As a consequence of the 2002-2008 growth period, living standards in both regions increased significantly (graph 2) and poverty rates fell.

Graph 1: GDP growth and its components

GDP growth and its components in CESEE in Latin America

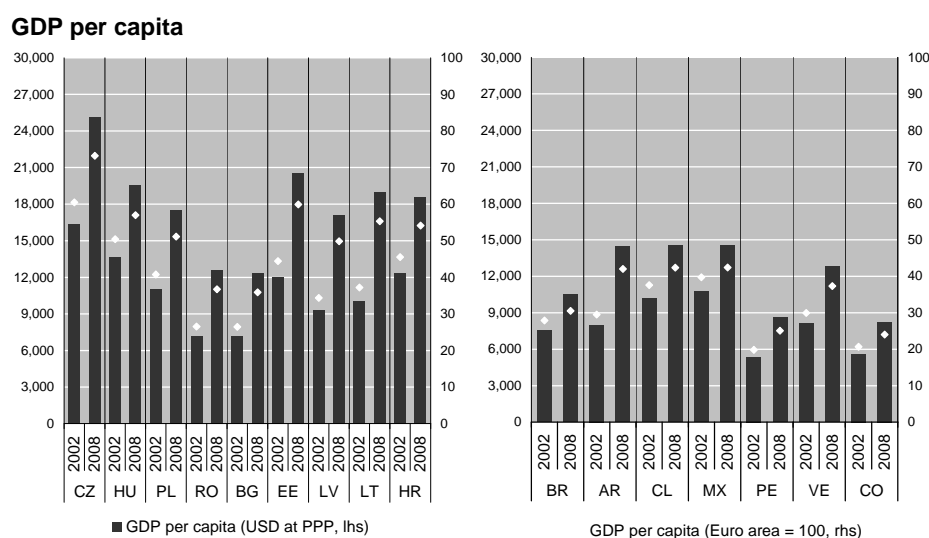
2002-2008 average. GDP growth: yoy change, %. Components: Percentage points contribution to annual growth



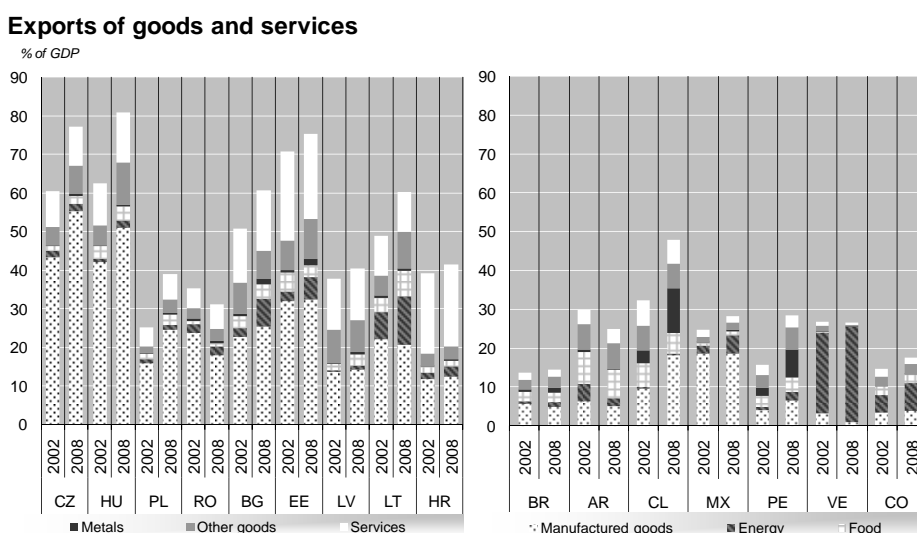
Source: Eurostat, National statistical offices, OeNB, BdE. *Including statistical discrepancy.

1. In CESEE we look at nine countries, which can be divided into three geographical sub regions, namely the three Central European countries (CEE) Czech Republic (CZ), Poland (PL) and Hungary (HU), the three Southeastern European countries (SEE) Bulgaria (BG), Croatia (HR) and Romania (RO) and the three Baltic countries Estonia (EE), Latvia (LV) and Lithuania (LT). The two CESEE euro area countries (Slovenia and Slovakia) are not covered in this paper. For the purposes of this study, Latin America means the seven largest economies of the region [Argentina (AR), Brazil (BR), Chile (CL), Colombia (CO), Peru (PE), Mexico (MX) and Venezuela (VE)].

Graph 2: GDP per capita



Graph 3: Exports of goods and services



In addition to favorable global conditions, several region-specific features underpinned the strong growth momentum before the outbreak of the global economic and financial crisis. As for the CESEE countries, in particular two aspects distinguish them from other emerging economies.² First, CESEE countries underwent a deep and historically unprecedented transformation from planned to market economies. This implied significant investment needs, as the pre-transition physical capital stock had become largely obsolete. In addition, economic transformation went hand in hand with a rapid change in economic integration patterns (graph 3). The regional reorientation of trade flows (away from previous COMECON countries to the EU) was accompanied and in fact promoted by a shift from resource-based/low-tech exports to medium- and high-tech exports (graph 4). This helped

2. On this issue see also Martin and Winkler (2009).

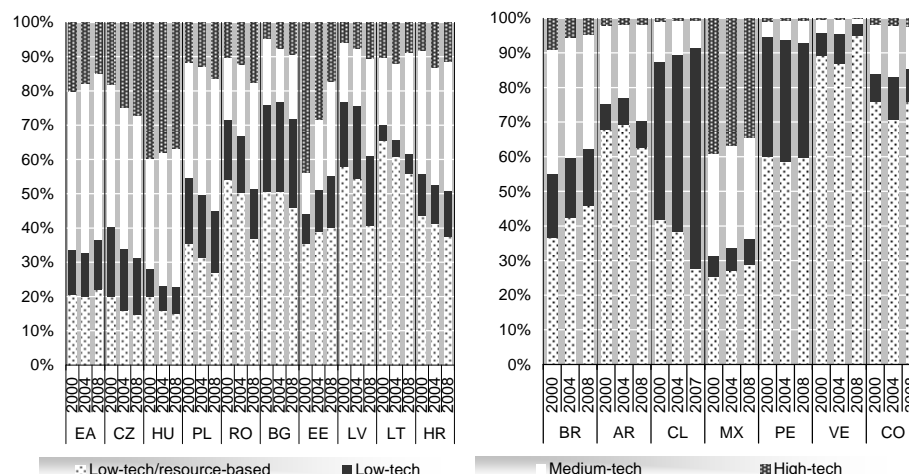
CESEE countries (being net importers of raw materials and energy) to successfully cope with the negative terms-of-trade shock resulting from the global commodity price boom before the crisis. The issue of regional trade reorientation is closely related to the second key distinguishing aspect of CESEE economies, namely their participation in the European integration process. Except for Croatia —which is expected to join the EU in the next few years— all CESEE countries under review have become members of the EU, an economic area with highly integrated goods, services, capital and (to a lesser extent) labour markets, and have adopted European standards for economic policy, institutions and governance. Moreover, all CESEE countries are sooner or later set to adopt the euro and are thus committed to striving towards the fulfilment of the convergence criteria laid down in the Treaty (ECB 2003).

During the period of buoyant growth until 2008, financial vulnerabilities built up in some but not in all CESEE countries. Policy stances differed across countries, while the policy tool-box (e.g. as regards the management of capital flows) was constrained by EU accession and the depth of financial integration which increased considerably over the last decade, not least in terms of cross-border ownership of financial institutions (graph 5).

Graph 4: Technological content of exports

Technological content of exports

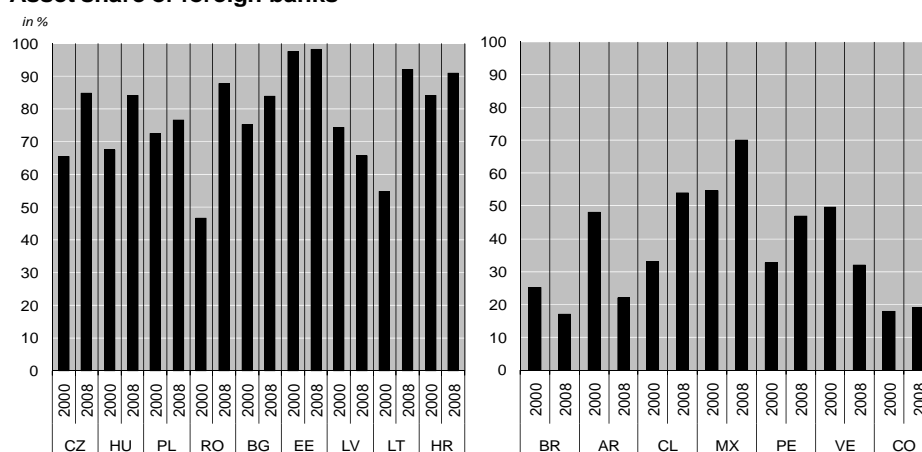
in % of classified exports (covering around 90% of total exports)



Source: Eurostat/Comext. UN/Comtrade. OeNB. EA: Euro area.

Graph 5: Asset share of foreign banks¹

Asset share of foreign banks



Source: EBRD, BIS, IMF, OeNB, BdE.

¹ For Latin America, following the IMF Western Hemisphere Regional Economic Outlook, assets include the main six foreign banks with global presence. This means that in some countries the actual share of foreign banks could be higher due to the presence of other international and regional banks.

Turning to Latin America, this region was enjoying during the five year period up to 2008 its longest and most dynamic growth period ever since the 1970s, having left behind the financial crises that had affected some countries of the region in the late 1990s and early 2000s. A key driver for this performance was the impressive rally in commodity prices that took place during this period, and which meant an accumulated positive terms-of-trade shock for this commodity exporting region of more than 150%. A second key factor is the outstanding reduction in financial vulnerabilities that took place in most countries, though not in all, over the 2002-08 period on the back of improved economic policy management. Learning from the crises of the 1990s and from past policy mistakes, most countries in Latin America pursued sounder monetary and fiscal policies, adopted more flexible (though somehow managed) exchange rate regimes, and paid substantial regulatory attention to signs of excessive capital inflows, asset price bubbles, currency mismatches and credit booms. Such attention arguably moderated the risk of a boom-bust cycle.

Against this background, the paper first reviews the macrofinancial strengths and vulnerabilities in CESEE and Latin America in the run up to the 2007/2008 global economic and financial crisis. To capture the macroeconomic strengths and vulnerabilities of CESEE and Latin America, we use a broad list of vulnerability indicators which are presented in the form of cobwebs. This allows for a comparison across indicators and time and thus for capturing risk profiles at the onset of the current crisis. It is important to keep in mind that the analysis is conducted at a regional level, and that considerable heterogeneity exists among countries both in Latin America and —even more so— in CESEE. Therefore, the regional results refer to stylized averages and are not necessarily indicative for the vulnerability profile of individual countries.

Section 2 also provides an empirical analysis of the link between vulnerability indicators and the impact of the crisis (box 1) and explores to what extent economic policies in both regions helped to mitigate financial vulnerabilities in the run-up to the global economic and financial crisis, with a special box related to Latin America (box 2). This provides the

background for section 3, which reviews financial and real economic developments in the two regions since the start of the crisis in mid-2007 until the end of 2009. This section contains a box on cross border banking flows in CESEE countries (box 3). Section 4 includes a description and an assessment of the different policy responses to the crisis in the two regions. Section 5 concludes.

2 Macrophinancial Strengths and Vulnerabilities at the Beginning of the Crisis

Standard vulnerability indicators can be used to gauge the relative strengths and vulnerabilities of Latin America and CESEE. By standard vulnerability indicators we refer to economic variables which, according to the literature on economic and financial crises,³ indicate potential risks or have good properties as leading indicators of crises. In this paper, we do so by comparing the status of those indicators before the current crisis with their relative position before other previous regional and global crises.⁴

More specifically, we look at six sets of indicators which are described in more detail in table 1. These include indicators of market sentiment, external vulnerabilities, the banking sector, fiscal policy, monetary issues, as well as real and nominal indicators. The reference date we use for the global economic and financial crisis is September 2008 (Lehman collapse), as emerging economies have been affected by the crisis mostly only thereafter. The reference points in time are December 2001 (Argentine crisis) and August 1998 (Russian crisis).⁵

We present the vulnerability indicators in the form of cobweb charts. The charts should be read as follows: the closer a data point is located to the origin of the cobweb, the lower is the degree of vulnerability, and vice versa. Data are normalized based on their long term average and the standard deviation of the series.⁶ The impact of possible trends in the data, which could result from factors like structural reform or integration, is not accounted for, as there is no obvious method to filter out possible trend components in a robust way. This caveat calls for some caution in data interpretation.

3. See among other Kaminsky and Reinhart (1996).

4. As a caveat, note that the methodology used allows for an indirect comparison across regions, but not a direct one, as the cobweb charts depict the deviations of each indicator from a long-term average.

5. For daily and monthly data we use the weighted average of the six months before the month of the respective crisis and for quarterly data we use the weighted average of the four quarters before the quarter of the respective crisis. For Latin America regional aggregates are weighted averages of country data based on World GDP shares. CESEE aggregates are calculated as weighted averages of country data based on each country's share in regional GDP. Cobwebs for individual countries are available upon request from the authors.

6. In order to maintain that a cobweb closer to the origin represents less vulnerability some variables are inverted (sovereign ratings, domestic stock index, budget balance, deposit growth, industrial output growth, current account balance, FDI, net portfolio investment flows, net foreign assets, basic balance, return on equity, capital adequacy ratio, long-term foreign exchange deposit rating and relative bank stock price).

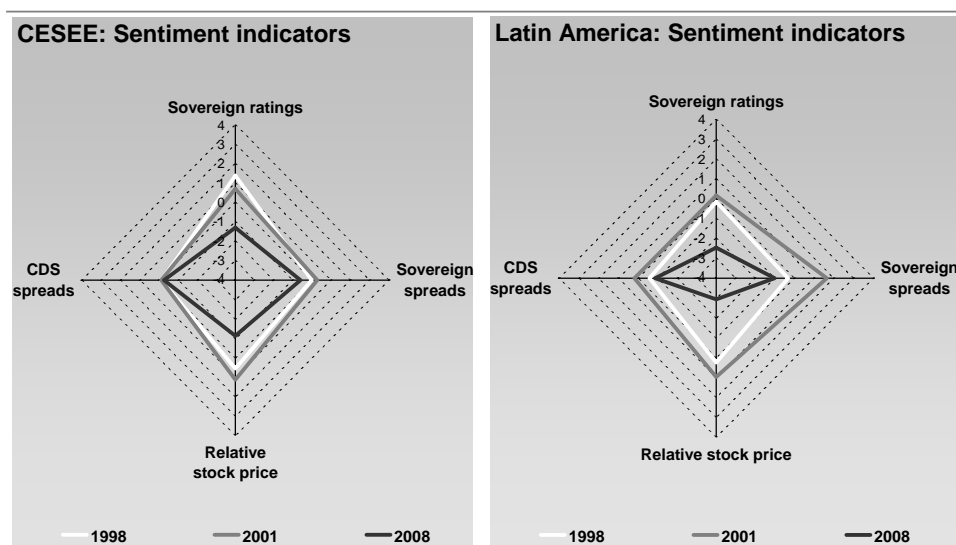
Table 1: Vulnerability indicators

| Group | Indicator | Interpretation |
|-------------------------------------|---|--|
| Sentiment indicators | EMBI spreads | Proxies for market and international investor sentiment; also gauges contagion from a global or other emerging market crisis. |
| | CDS sovereign spreads (5 or 10 year) | |
| | Sovereign rating (average of Fitch, Moody's and S&P) | |
| | Relative stock exchange index (to world index) | |
| Vulnerability indicators, of which: | | |
| External indicators | All | Pressures on the balance of payments or the capacity and willingness of a country to deal with its external liabilities, ultimately leading to the possibility of a sovereign default. |
| | Current account balance | External financing needs. |
| | FDI and basic balance | Which part of the external financing needs is covered by long-term and stable capital inflows. |
| | Short-term debt over foreign exchange reserves | Estimates the capacity to confront a sudden stop in short-term capital inflows or short-term debt rollovers with central bank resources. |
| | External debt and external debt service | Capacity to repay external liabilities. |
| | Net portfolio investment inflows | Potential short-term outflows in case of a sudden stop. |
| | Net foreign assets (NFA) | Structural measure of a country's position as external creditor or debtor and the effects in the case of a more pronounced depreciation of the currency. |
| Banking indicators | All | Detect imbalances in an industry with high externalities over the rest of the economy. |
| | Domestic banks' foreign liabilities over foreign assets | Proxy for currency mismatches in case of a devaluation and the dependence of banks on external sources of funds. |
| | Long-term foreign exchange deposit rating (Moody's) | Reflects the foreign investor sentiment about a country's banking sector. |
| | Relative stock price index for domestic banks | Represents the investor confidence vis-à-vis listed banks relative to the rest of the stock exchange. |
| | Loan-to-deposit ratio | Measures whether credit is increasing faster than deposits and is financed through other possibly less stable sources. |
| | Share of foreign exchange loans in total loans | Measure of the currency mismatch of bank clients, and the potential increase in non-performing loans in case of a strong depreciation. |
| | Non-performing loans (NPL) | Gauges the pressure from non-performing loans on banking sector balances. |
| | Capital adequacy ratio (CAR) | Solvency of the banking sector. |
| Fiscal indicators | Return on equity (ROE) | Profitability of the banking sector. |
| | Budget balance | Signal pressures from public finances on monetary and exchange rate policies and indicate financing pressures for the public sector. |
| | Public debt | |
| | Interest payments over budget revenues | Indicates debt servicing pressures on public accounts and serves as a proxy for the sustainability of a certain debt level. |
| Monetary indicators | Real M2 growth | Attempt to capture issues related to monetary policies, credit growth in the banking system and the way it is financed. |
| | Real deposits growth | |
| | Real credit growth | |
| Real indicators | Industrial output growth | Leading indicator of current and future economic growth. |
| | Nominal interest rates | Variables determining investment and consumption propensity. |
| | Consumer price inflation | |
| | | Export growth |

Market sentiment indicators (graph 6) illustrate that both regions were more positively assessed by financial markets in 2008 than before the other two crises under review. Market sentiment towards Latin America was even better than towards CESEE, with spreads reaching historical lows in both regions right before the outburst of the global economic and financial crisis. In CESEE, less pronounced direct economic ties with the US, the “EU/euro area-halo” effect⁷ (or an EU accession perspective) and good medium-term economic prospects (despite rising economic imbalances in some countries) seemed to bolster investors' confidence in the run-up to the crisis.

7. See Luengnaruemitchai and Schadler (2007).

Graph 6: Sentiment indicators

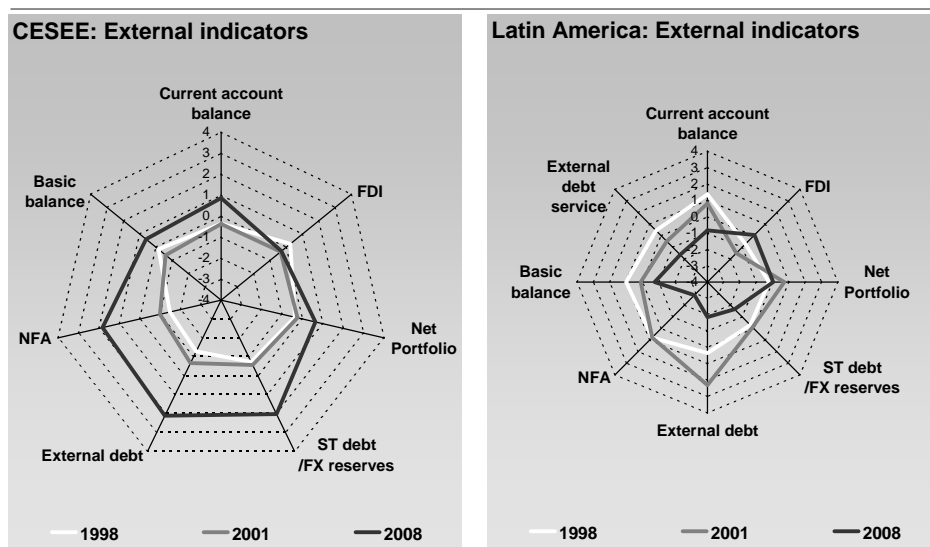


Source: JP Morgan, Moody's, Fitch, Standard and Poor's, Datastream. OeNB, BdE.

But was there a corresponding decrease in vulnerability behind these optimistic market assessments? At least in Latin America the answer is yes. The conclusion is not so clear for the CESEE region. As graph 7 shows, external vulnerability in Latin America, the traditional “Achilles heel” of the region, had been reduced considerably before the current crisis. In 2008, Latin America had a more balanced current account (a relatively small current account deficit), thanks in part to the increase in commodity prices since 2003, financed by long term foreign investment (higher basic balance). Also, Latin America reduced the ratio of short-term external debt to reserves (increasing reserves but also actively extending the maturity of external debt), and switched external debt for domestic debt, a movement led by the public sector which was instrumental in reducing aggregate currency mismatches. The net foreign asset position of the region increased, especially for the public sector. FDI, however, was less abundant in 2008 than in August 1998 or December 2001, something which may be explained by the large privatization processes of the nineties. Even in those countries considered more vulnerable such as Venezuela or Argentina, external vulnerability indicators had improved.

In the CESEE region as a whole, however, external vulnerability indicators tended to be worse in 2008 in comparison to previous crises. A number of countries, in particular the Baltics and SEE, experienced a considerable widening of their current account deficits. This was partly a result of booming domestic demand (both private consumption and investment) as well as adverse developments in global commodity prices. FDI inflows remained large, but —in most cases— did not fully cover current account deficits. This resulted in a pick-up in external debt levels over time. In particular, short-term external debt increased so that, despite a strong build-up in foreign exchange reserves, the ratio of short-term debt to foreign exchange reserves deteriorated in recent years, making some CESEE countries more vulnerable to ‘sudden stops’. Notwithstanding this general picture, some countries successfully reduced external vulnerabilities by strengthening their export base and thereby lowering their current account deficits. Also, short-term debt developments were not uniform across the region, again pointing a large cross-country variation.

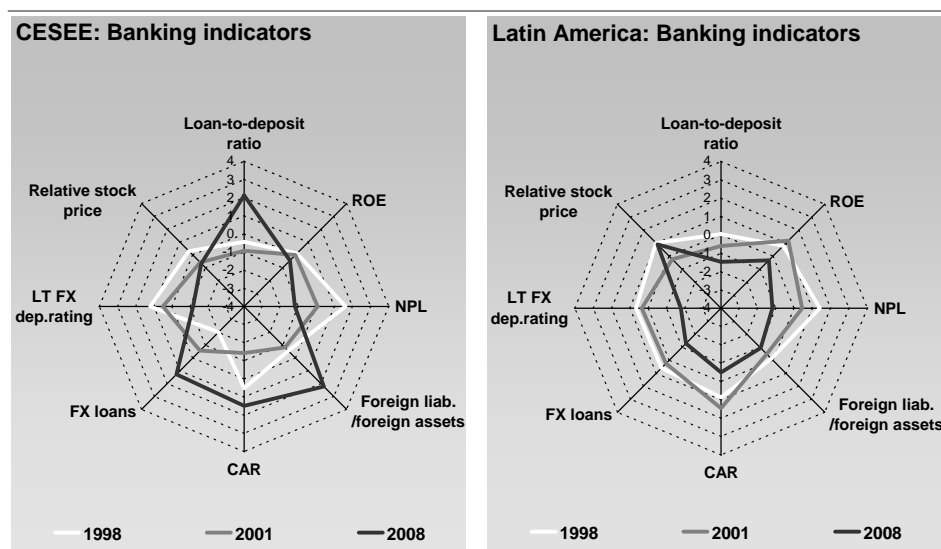
Graph 7: External indicators



When looking at banking sector vulnerability indicators, Latin America also seemed to perform better than before previous crises (see graph 8). Ratings were higher, credit delinquency rates lower, currency mismatches, measured as the share of loans denominated in foreign currency, had decreased, banks had a net foreign asset position, and bank loans were on average not growing at a much faster pace than deposits. All these elements would at first sight allow to discard an “Asian 1997” type of crisis. Only the banking sector stock exchange index was clearly performing worse than before the previous crises, something probably derived from a negative market assessment of the sector after two decades of banking crises, and from the fact that many of the large banks in the region were foreign-owned and might not be listed in the domestic stock exchanges.

On the contrary, increasing loan-to-deposit ratios in CESEE signaled that deposit growth could not keep up with credit growth, so that banks had to rely increasingly on other financing sources, in particular foreign funding. This showed up in an increasing ratio of foreign liabilities over foreign assets in many but not all CESEE countries, with the Czech Republic and Poland being notable exceptions. In a number of CESEE countries a large share of credits were issued in foreign currency but, again, average numbers hide substantial differences across countries (for instance foreign currency credit in the Czech Republic is minimal). Against the background of banks’ changing business profile (shift from government to private sector financing), bank capitalization moderated slightly over time, although the average capital adequacy ratio remained well above legal requirements. On the positive side, the non-performing loan ratio (NPL) improved, following transition-related banking reforms and the recent expansion of bank balance sheets due to strong credit growth. At the same time booming credit growth, rising bank efficiency, better bank governance (a result of the large-scale entry of foreign banks and improved bank supervisory and regulatory structures), and lower provisioning led to increased bank profitability.

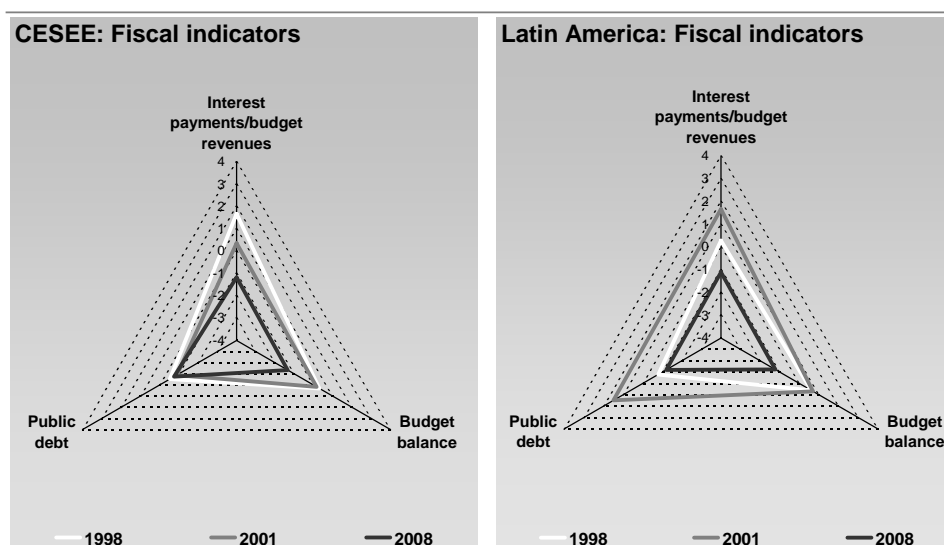
Graph 8: Banking indicators



Source: NCBs, OeNB, BdE.

As graph 9 shows, in 2008 fiscal vulnerability indicators were in both regions in a much stronger position than before any of the previous crises (fiscal balances had improved, interest payments on public debt were clearly below historical averages, and public sector debt was more or less at the same level as in previous crises). Moreover, as the primary balances were larger and debt service put less pressure on revenues, debt ratios were more sustainable, and very low in the case of most CESEE countries except Hungary and to a lesser extent Poland. In the case of Latin America, the composition of public debt had a positive influence on vulnerability levels (longer maturities and less dependence on external or USD linked debt).

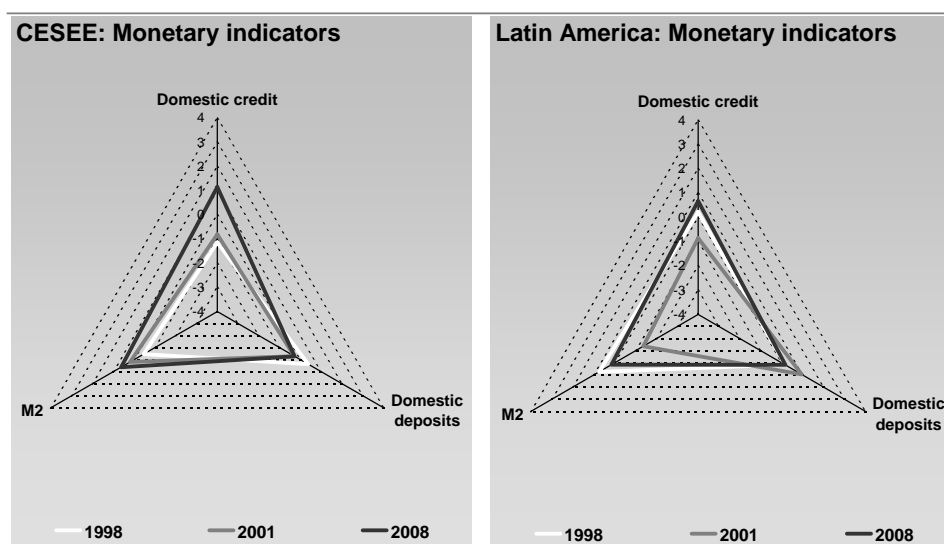
Graph 9: Fiscal indicators



Source: NCBs, OeNB, BdE.

As shown in graph 10, monetary indicators for Latin America showed a less favorable situation, and a deteriorating picture for the CESEE region as a whole. In Latin America, real M2 and real credit to the private sector rose before September 2008 at high rates. The rate of increase of deposits was, however, also considerably higher, a factor that limits the potential risks of high credit expansion. In addition it was believed that such growth was part of a catching-up process to levels of credit over GDP in line with regional per capita GDP. In any case, this constituted a warning signal. For the CESEE region, indicators suggested a credit boom, as credit rose much faster than deposits, and this was reflected also in high real money supply growth, supporting the view that the banking sector had accumulated some vulnerabilities before the current crisis. Again developments differed across countries and, as in Latin America, convergence factors have played an important role. Still, as other studies show, in the second half of the current decade, levels of private sector credit to GDP had already become fairly elevated relative to the underlying fundamentals (graph 12) and there are indications that credit overshoot in some CESEE countries towards the end of the boom.⁸

Graph 10: Monetary indicators

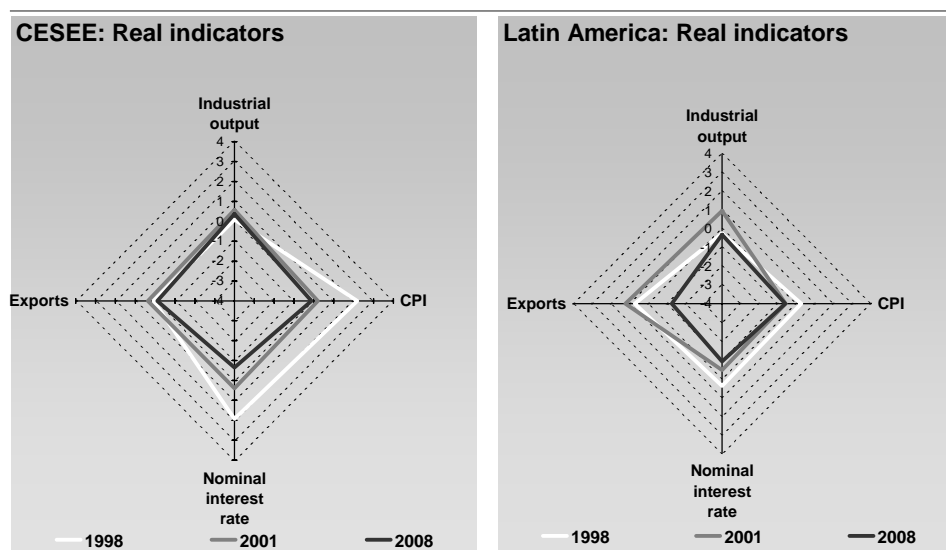


Source: NCBs, OeNB, BdE.

Finally, as suggested by graph 11, in September 2008 both regions were better off also in terms of real and nominal indicators. In particular in CESEE, the monetary stabilization after periods of transition-related monetary distortions (e.g. hyperinflation) in many CESEE countries in the early-/mid-90s coupled with favorable global inflationary developments contributed to a more benign inflationary environment and thus also to falling nominal interest rate levels. In addition, the deep-rooted economic restructuring of the 1990s and EU integration allowed for a gradual expansion of industrial production capacities and export growth.

8. For more details see Backé, Égert and Walko (2007) and Zumer, Égert and Backé (2009).

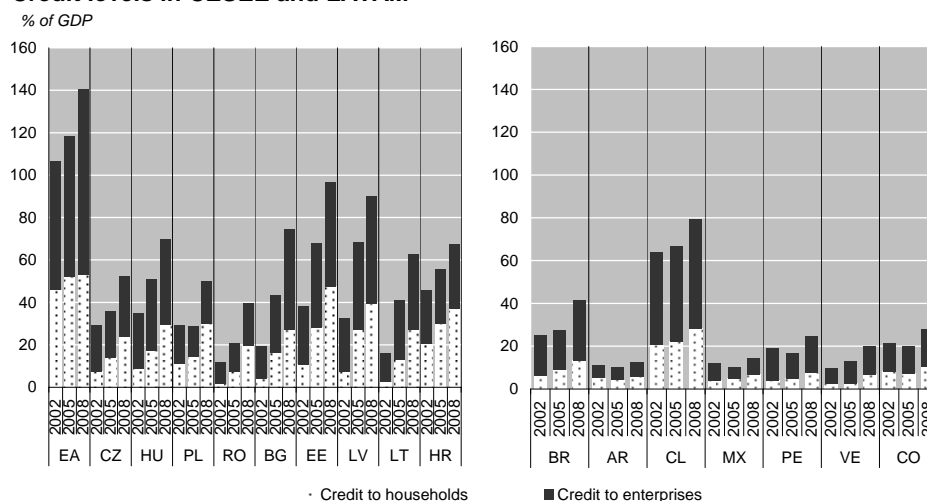
Graph 11: Real and nominal indicators



Source: NCBs, OeNB, BdE.

Graph 12: Credit levels

Credit levels in CESEE and LATAM



Source: NCBs, ECB, BdE, OeNB.

The general conclusion from this set of indicators is that, even if there were important differences across countries, Latin America was better prepared than in the past to weather the global economic and financial crisis. Vulnerabilities had been strongly reduced, not only in the banking sector, but also in areas at the origin of previous crises in the region, like the public or the external sectors.⁹ Vulnerabilities in the CESEE region as a whole had increased in

9. In Latin America the accumulation of vulnerabilities and the subsequent busts have typically arisen from booming external environments, rapid credit growth and GDP growth rates above potential. As the supply was typically too rigid to meet the increase in demand, countries started to accumulate external (current account deficits, external debt) and internal imbalances (excessive public sector spending, public debt). Ultimately, these trends proved unsustainable, leading to currency devaluation, inflation, a GDP contraction, and sometimes a government default. Sometimes the public sector also increased vulnerabilities (1982 debt crisis, 1994 Tequila crisis). Other times the central bank and the bail out of the banking sector were the main features (Ecuador 1999).

some areas in the years prior to the current crisis, notably in the external and banking sectors and with respect to some monetary indicators (in particular credit developments). By contrast, sentiment, fiscal, as well as real and nominal indicators suggested a decline in the region's macrofinancial vulnerabilities over time. However, as mentioned above, these regional tendencies hide major differences in levels and dynamics across individual CESEE countries.

Box 1: Vulnerability indicators and crisis impact – an empirical analysis for EMBI spreads and growth

In this box we assess empirically to what extent the vulnerability indicators used in the paper can also be used to predict the impact of the crisis. More specifically, we regress the changes in selected financial and real indicators (the EMBI spread and GDP growth rates) after the crises of 1998, 2001 and 2008 on vulnerability indicators before the crises.¹⁰

Our dataset comprises 20 countries, 11 from CESEE (we have added Slovakia and Slovenia to the sample used in the rest of the paper) and 9 from Latin America (adding Ecuador and Uruguay to the sample). Our dependent variables trace the initial impact of the crises on financial and real conditions. More specifically, we take the two months average EMBI+/EMBI-Global spreads before the crisis minus the two-months average spreads after the crisis and the difference between real GDP growth rates in the quarters before and after the crisis.¹¹

In line with the analysis above, we have aggregated the 31 vulnerability indicators described in this paper into six major groups (sentiment indicators, external indicators, banking indicators, fiscal (public sector) indicators, monetary indicators and real and nominal indicators).¹² All the indicators are taken as normalized deviations from the long-run mean up until the moment when the crisis hits.¹³ A positive sign always means a decline in vulnerability. We also divide the sample into two sub-regions, CESEE and Latin America, to check for regional differences.

First we calculate bilateral correlations. As shown in chart 1, the change in EMBI spreads after the crisis is negatively correlated with sentiment, real and nominal, and public sector (fiscal) vulnerability indicators before the crisis. Countries where these vulnerabilities are less pronounced before the crisis typically register a smaller increase in risk premia. These effects are, however, mainly driven by Latin American countries. In the CESEE (but not the Latin American) countries, it is mainly the monetary indicator which is correlated with the EMBI change. Changes in EMBI spreads after a crisis do not seem to be correlated with banking vulnerability indicators and external vulnerability indicators are correlated with the change in EMBI spreads only for Latin American countries.

Turning to post-crisis changes in GDP growth, the correlation analysis suggests that GDP holds up better after a crisis in countries with smaller real and external vulnerabilities (chart 2). Also countries with soundness banking sector seems to suffer smaller recessions after a crisis, although this result is clearly determined by CESEE countries. Finally, an improvement in public sector indicators leads to a higher resilience of GDP in the case of LA countries. Sentiment indicators and monetary indicators seem to be uncorrelated with GDP rate of growth changes after the crisis.

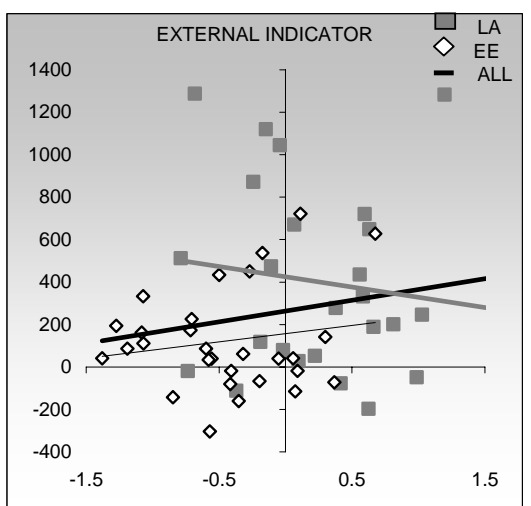
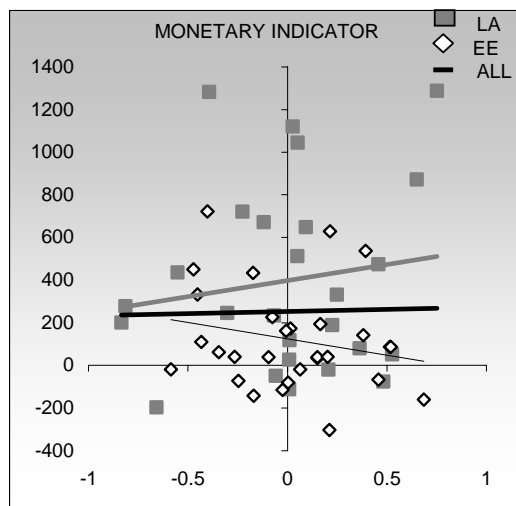
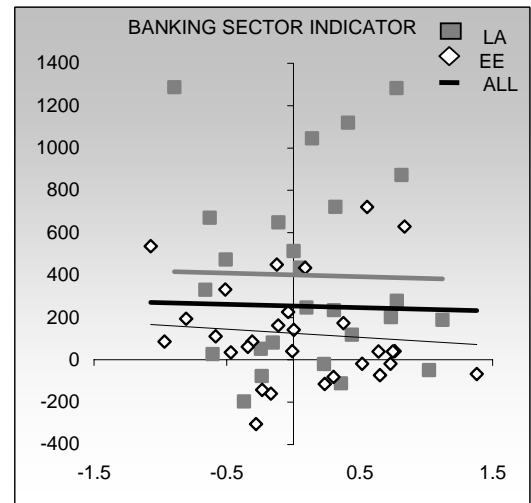
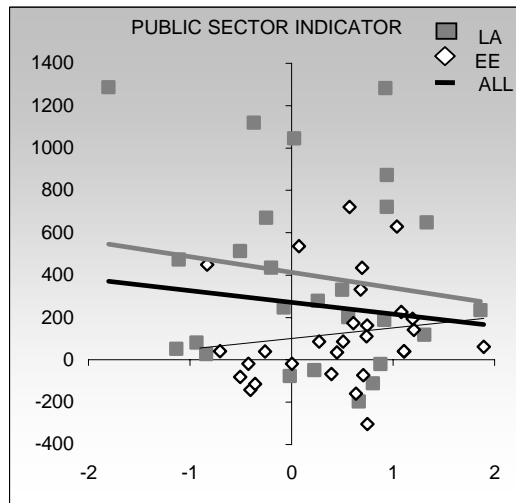
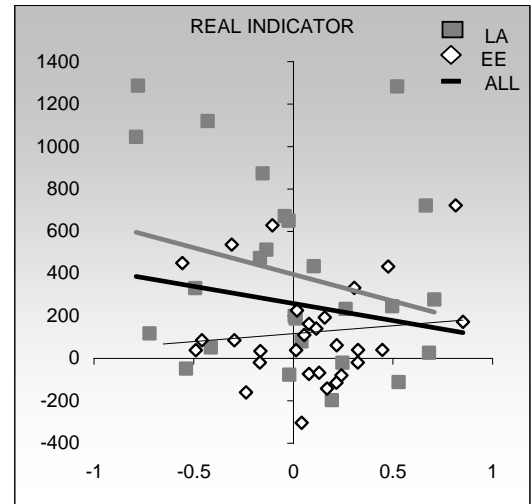
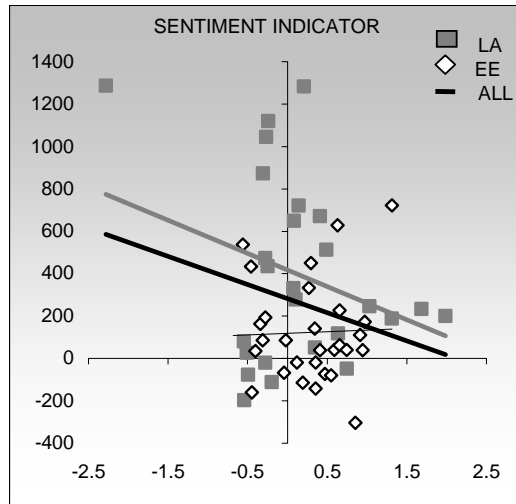
10. We are aware of the limitations of this analysis such as the presence of multicollinearity in the regressors and the low number of observations in our sample.

11. We date the crises as follows: for the Russian crisis in 1998, the announcement of GKO default (17-Aug-1998); for Argentina in 2001 the sovereign default and currency board abandonment (31-Dec-2001) and for the subprime crisis in 2008, the bankruptcy of Lehman's Brothers (15-Sep-2008).

12. We have added 'exchange rate misalignment' to the set of real and inflation indicators. This is defined as the difference between the observed nominal effective exchange rate and the long run (equilibrium) nominal effective exchange rate which maintains the real effective exchange rate.

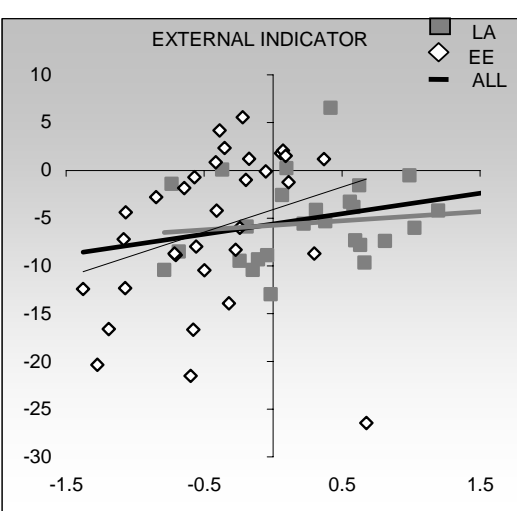
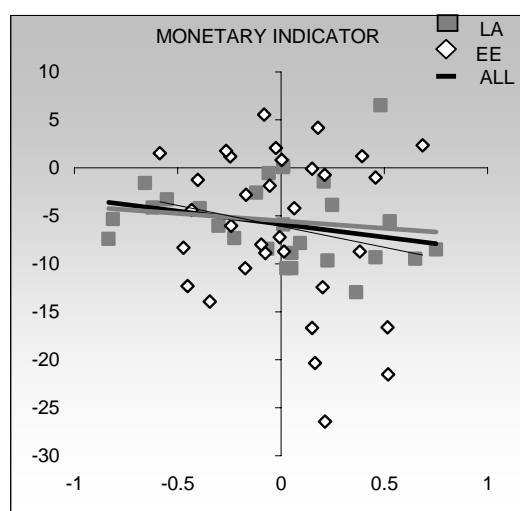
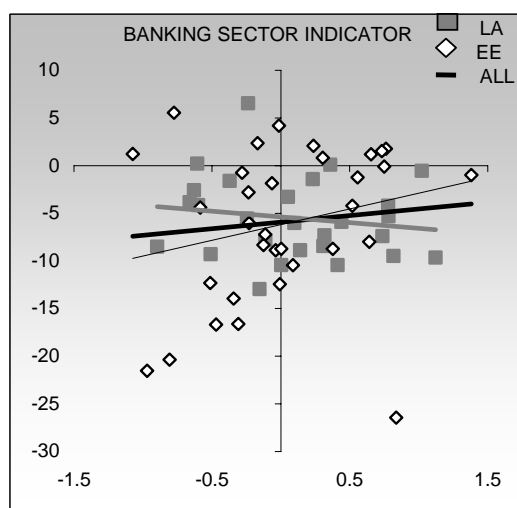
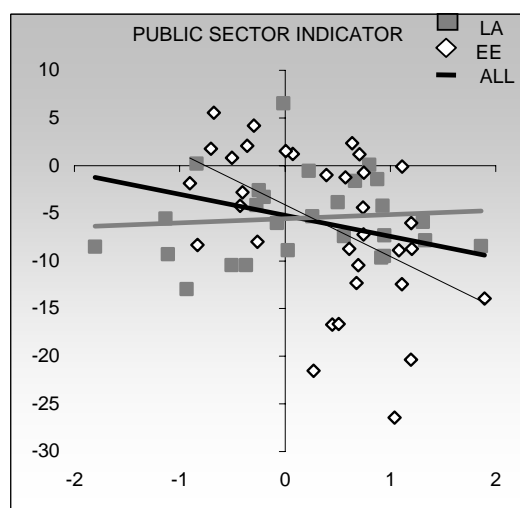
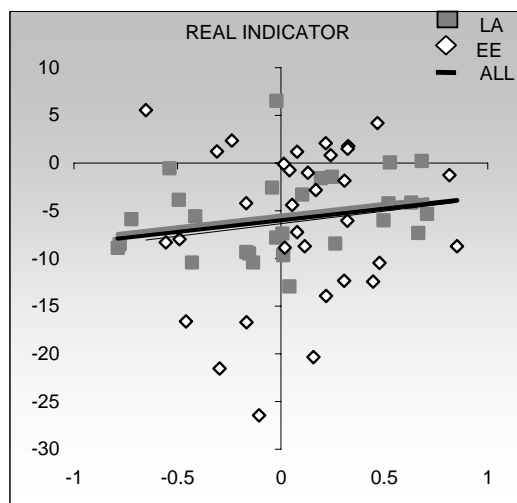
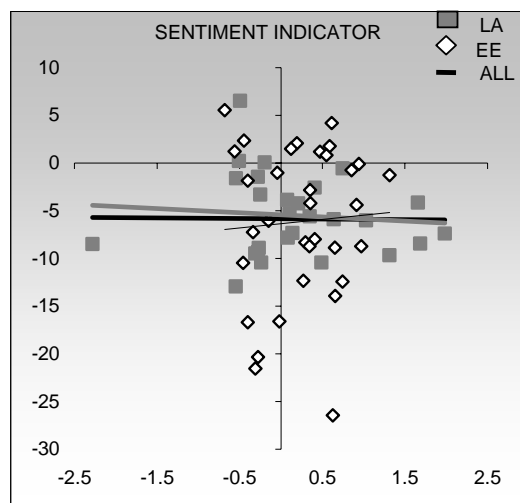
13. We calculate for each vulnerability indicator the average and standard deviation between 1993 and July 1998 in the case of the Russian crisis, from 1993 to November 2001 in the case of Argentina default, and from 1993 to August 2008 for the Subprime crisis. Then we normalize the data for August 1998, December 2001 and September 2008. By doing so, we avoid endogeneity problems in the regressions.

CORRELATION EMBI SPREADS CHANGES - VULNERABILITY INDICATORS DEVIATION *Chart A.1*



CORRELATION GDP GROWTH CHANGES - VULNERABILITY INDICATORS DEVIATION

Chart A.2



The correlation coefficients matrix (Table 1) confirms this visual inspection.

Table 1: correlations coefficients matrix

| | EMBI change (bps) | GDP growth change (%) | Sentiment | Real | Public | Banking | Monetary | External |
|-----------------------|-------------------|-----------------------|---------------|---------------|--------------|--------------|----------|----------|
| EMBI change (bps) | 1.000 | | | | | | | |
| GDP growth change (%) | -0.286 | 1.000 | | | | | | |
| Sentiment | -0.244 | -0.006 | 1.000 | | | | | |
| Real | -0.172 | 0.149 | 0.323 | 1.000 | | | | |
| Public | -0.117 | -0.265 | 0.372 | 0.242 | 1.000 | | | |
| Banking | -0.024 | 0.118 | 0.413 | 0.190 | 0.228 | 1.000 | | |
| Monetary | 0.020 | -0.153 | -0.429 | -0.437 | -0.112 | -0.191 | 1.000 | |
| External | 0.180 | 0.208 | 0.296 | 0.092 | 0.093 | 0.371 | -0.266 | 1.000 |
| VIX | 0.298 | -0.550 | 0.279 | 0.048 | 0.477 | -0.082 | -0.205 | -0.049 |

(a) Significant correlations in bold and italics

Some other interesting issues also arise from the correlations coefficients analysis. First, sentiment indicators are strongly correlated with other vulnerability indicators, confirming the fact that market perceptions typically reward countries that have reduced their ‘actual’ vulnerabilities.¹⁴ Second, the correlation between the sentiment and monetary indicators is significantly negative. We thus use real deposit growth, a one-sided variable whose increase represents a reduction in vulnerability, as monetary variable in the regressions.

We estimate two different regressions, one for each dependent variable, following this very simple model:

$$\text{Reaction}_{t,i} = \alpha + \delta * \text{VIX}_t + \beta * \text{Vulnerability}_{t,i} + \varepsilon$$

We also include a common factor VIX¹⁵ representing the effect of each crisis on the reaction of each individual country.¹⁶

The results suggest that EMBI spreads after crises are driven by the VIX change during the crisis and by sentiment and public sector indicators before the crisis (column 1). The coefficients suggest for example that an improvement in the public sector vulnerability indicator before the crisis by one standard deviation dampens the increase in the EMBI spread after the crisis by approximately 177 basis points. In column 7 we present the full model. The signs and significance of public sector indicators and of the VIX do not change. Splitting the sample into the two regions does not materially change the results either except for the sign and significance of the monetary and external indicators in the case of CESEE. This initially counter-intuitive result is dominated by some 1998 outliers in the CESEE countries. Excluding 15% of the extreme EMBI global variations provides a negative and significant coefficient for banking sector indicators. In other words, CESEE countries which have reduced their banking sector vulnerability registered a smaller increase in sovereign spreads after the crisis. The real and monetary variables become insignificant.

14. Econometrically, this implies, however, that multicollinearity in the regressions may be a problem. To solve this, we estimate sequentially the model presented below, and eliminate the sentiment indicators from the final estimations.

15. The VIX index measures the volatility implicit in Standard and Poor’s options, and is generally considered an indicator of global financial stress.

16. We pool the data and estimate the model using OLS techniques. To avoid heteroscedasticity we use the standard White correction matrix. Alternatively, we could use panel techniques with fixed effect representing individual reaction to a global crisis, but as we have a small time dimension we prefer OLS regressions.

Moreover, the fall in GDP after crises appears to be driven by real and external vulnerabilities before the crisis and by the increase in the VIX during the crisis —with the expected sign, but with a less significant impact on the dependent variable. These regularities are maintained in the full model but are largely driven by Latin American countries, where we also observe a positive and significant effect of public sector (fiscal) vulnerabilities (column 8). Except for the VIX index we do not find any significant effect of vulnerability indicators on the fall of GDP in the CESEE countries.

Table 3: main results:

| Variable | EMBI | | | | | | | LA | CESEE |
|----------------------|-------------|------------|--------------|------------|------------|------------|--------------|-------------|--------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Sentiment | -206.26 (*) | | | | | | | | |
| P > t | 0.06 | | | | | | | | |
| Real | | -181.27 | | | | | -141.99 | -263.77 | 174.16 |
| P > t | | 0.32 | | | | | 0.36 | 0.22 | 0.21 |
| Public | | | -176.61 (**) | | | | -190.85 (**) | -196.84 (*) | -118.42 (**) |
| P > t | | | 0.05 | | | | 0.02 | 0.11 | 0.04 |
| Banking | | | | 30.29 | | | 30.83 | -70.54 | -99.94 |
| P > t | | | | 0.76 | | | 0.73 | 0.58 | 0.19 |
| Monetary (a) | | | | | 7.68 | | 45.34 | 36.29 | 150.44 (***) |
| P > t | | | | | 0.94 | | 0.57 | 0.74 | 0.00 |
| External | | | | | | 102.05 | 122.82 (*) | -144.30 | 294.03 (***) |
| P > t | | | | | | 0.18 | 0.09 | 0.34 | 0.00 |
| VIX | 3.37 (***) | 2.80 (***) | 3.63 (***) | 2.70 (***) | 2.72 (***) | 2.82 (***) | 3.93 (***) | 6.03 (***) | 3.59 (***) |
| P > t | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Obs | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 26 | 29 |
| F-test (Probability) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.000 |
| R2 | 0.423 | 0.361 | 0.407 | 0.337 | 0.336 | 0.358 | 0.461 | 0.613 | 0.649 |
| VIF | 1.11 | 1.01 | 1.55 | 1.00 | 1.01 | 1.02 | 1.43 | 1.70 | 2.28 |

| Variable | GDP | | | | | | | LA | CESEE |
|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Sentiment | 1.49 | | | | | | | | |
| P > t | 0.16 | | | | | | | | |
| Real | | 2.67 (*) | | | | | 3.18 (*) | 3.30 (**) | 3.42 |
| P > t | | 0.10 | | | | | 0.08 | 0.05 | 0.22 |
| Public | | | 0.20 | | | | 0.11 | 2.52 (*) | -2.48 |
| P > t | | | 0.86 | | | | 0.92 | 0.08 | 0.10 |
| Banking | | | | 0.53 | | | 0.37 | 0.07 | -0.64 |
| P > t | | | | 0.73 | | | 0.77 | 0.96 | 0.77 |
| Monetary (a) | | | | | -1.53 | | -2.11 (*) | -1.41 | -2.19 |
| P > t | | | | | 0.18 | | 0.06 | 0.13 | 0.23 |
| External | | | | | | 2.04 (**) | 1.99 (**) | 1.89 | 0.37 |
| P > t | | | | | | 0.06 | 0.03 | 0.24 | 0.91 |
| VIX | -0.07 (***) | -0.07 (***) | -0.07 (***) | -0.07 (***) | -0.07 (***) | -0.07 (***) | -0.07 (***) | -0.07 (***) | -0.07 (***) |
| P > t | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Obs | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 27 | 33 |
| F-test (Probability) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| R2 | 0.601 | 0.603 | 0.588 | 0.589 | 0.609 | 0.610 | 0.657 | 0.752 | 0.696 |
| VIF | 1.19 | 1.02 | 1.44 | 1.00 | 1.00 | 1.03 | 1.35 | 1.62 | 2.21 |

(a) Real deposit growth

(*) Significant 10% (**) Significant 5% (***) Significant 1%

Turning to the impact of pre-crisis economic policies on the regional strengths and vulnerabilities, economic policies played an important role in containing vulnerabilities. In Latin America monetary policy achieved in most countries low rates of inflation and inflation expectations close to the objectives. Exchange rates became more flexible. The assessment on fiscal policies is more mixed, as public debt was reduced, but the improvement of fiscal balances was to some extent due to cyclical reasons and increased commodity revenues. Authorities also managed actively other risks, such as those posed by episodes of large capital inflows and credit growth (see Box 2 for a more detailed explanation). FDI inflows during the last few years, driven by improvements in political stability and economic perspectives, were not a cause of concern, but short-term inflows, fuelled by high commodity prices and low global risk aversion, posed risks of credit and asset price bubbles and eventually of sudden capital outflows. In this context, most central banks took a number of measures to mitigate these risks, such as interventions in foreign exchange markets,

and in some countries price-based capital controls to discourage short-term capital inflows. Latin American central banks tended to be particularly concerned regarding overall credit growth and foreign currency lending and tended to take relatively more measures to mitigate the emergence of imbalances.

In the CESEE countries, the recent academic and policy debate on capital inflows was strongly conditioned by EU accession and tended to be less sceptical about the risk of capital flow reversals than in Latin America.¹⁷ The EU accession process implied the need to lift all capital controls at the latest at the time of accession and resulted in a range of institutional provisions that arguably fostered capital inflows.¹⁸ Moreover, the region's increasing financial integration with the rest of the EU, in particular the widespread foreign ownership of CESEE banking sectors, also contributed to these inflows and played an important role in boosting credit growth.¹⁹ There were also other reasons for the relatively more positive attitude towards capital inflows in CESEE countries. First, a relatively large share of capital inflows were FDI, which are rather seen as less volatile and more beneficial for economic development than short-term, speculative capital flows.²⁰ Second, unlike Latin American countries the CESEE region had less experience with large-scale capital inflows, including their negative side effects, such as asset price booms, sudden stops and capital outflows. Given the institutional requirements of EU integration and the rather positive assessment of the economic impact of capital inflows, most CESEE central banks seem to have been somewhat less active than their Latin American counterparts to manage capital inflows. However, most CESEE central banks also took measures to rein in overall credit growth and/or the growth in foreign currency-denominated credit. Measures included increases in the reserve requirements, administrative and prudential measures including credit ceilings and a tightening of provisioning requirements. However, such measures often had only limited and at best temporary effects in achieving the desired results.²¹ Finally, some CESEE countries used fiscal policies to partly offset the expansionary macroeconomic effects of capital inflows. Overall, however, fiscal tightening was relatively limited in most countries.²²

17. See Von Hagen and Siedschlag (2008).

18. See Lane (2008).

19. See Herrmann and Winkler (2008).

20. See Abiad, Leigh and Mody (2007).

21. A certain exception in this respect is Croatia which took a host of measures to rein in credit growth based on banks' foreign liabilities and expanded the scope of these measures to retain their effectiveness.

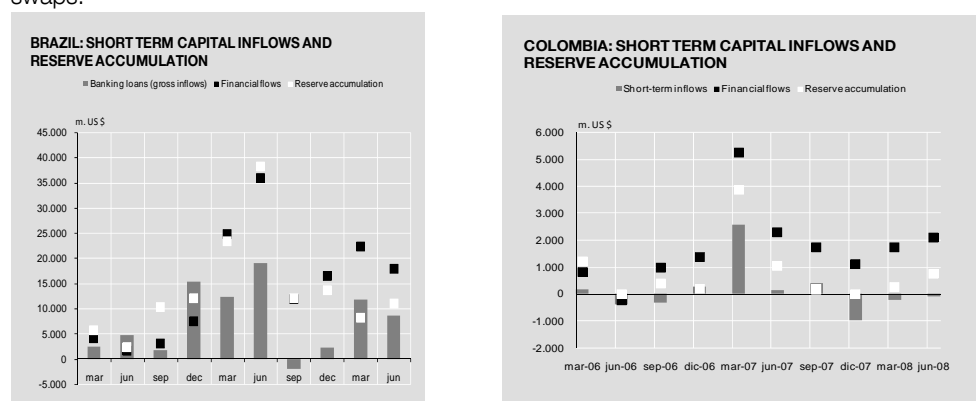
22. See Von Hagen and Siedschlag (2008).

Box 2: The management of capital inflows and credit growth in Latin America

During the past few decades Latin American countries suffered recurrent economic and financial crises, with a similar pattern of economic overheating fuelled by excessive credit growth, increases in financial dollarization, reliance on foreign currency financing and large short-term capital inflows. The macroeconomic conditions in recent years —low global risk aversion, high commodity prices, and strong economic growth— fostered again capital inflows and credit expansion, increasing the risks that a similar “boom and bust” cycle would materialize. However, this time, vulnerabilities remained relatively subdued. In this box we briefly analyze why this may have been the case. In particular, what role policies may have played in managing these developments in Latin America.

Capital inflows to Latin America increased during the period 2003-2008 partly due to structural improvements in the region, and partly due to low global risk aversion and high commodity prices. FDI inflows were generally considered beneficial, even if the ensuing exchange rate appreciation pressures could pose some concern. However, more skepticism was shown about the effect of short-term capital inflows, broadly considered more unstable and more likely to lead to exchange rate misalignments, credit and asset price booms. Among short-term capital flows, portfolio investment flows were considered more volatile and prone to sudden stops and exchange rate volatility, while the risks stemming from banking flows were more related to fuelling credit booms and overheating.

The more conventional prescriptions to deal with episodes of large capital inflows had usually been fiscal restraint and flexible exchange rates, in addition to structural reforms. The effects of the latter can almost by definition only be observed in the long-term.²³ However, during the period 2003-2008, many Latin American countries implemented other measures to deal with large capital inflows, probably because the aforementioned policy mix was perceived as ineffective to deal with these pressing problems. Hence, within the general framework of flexible exchange rates, most Latin American central banks strongly intervened in the foreign exchange market when they perceived risks of exchange rate misalignment (overshooting). Foreign exchange intervention was more regular in Argentina and Brazil, less so in Colombia and Peru, and non-existent or very rare in Mexico and Chile, although the Banco de Chile seems to have recently moved in favor of a more active role in the foreign exchange market.²⁴ Foreign exchange intervention was particularly large in Brazil and Colombia during the first half of 2007, when short-term capital inflows, and in particular bank inflows, accelerated (see graph). The policy of reserve accumulation during the last years mitigated exchange rate appreciation, and provided as a by-product foreign currency liquidity to intervene in the financial markets during the worst months of the economic and financial crisis. However, it has also been argued that reserve accumulation was not fully effective, and some analysts suggested that it was even self-defeating and fostered further inflows.²⁵ Moreover, self-protection against foreign currency liquidity needs or sudden capital inflows has also been considered as too costly and inferior, for instance, to international liquidity swaps.²⁶



²³. Among them, reforms to foster productivity and gain competitiveness, improvements in prudential regulation, or development of exchange rate derivative markets. See IMF (2007).

²⁴. See De Gregorio (2009).

²⁵. See Garcia (2008).

²⁶. See Rodrik (2006) and Blanchard (2009).

In Colombia and Peru, authorities resorted to capital controls, more stringent and less orthodox measures of discouraging capital inflows. In both cases, they were mainly price-based capital controls, compulsory non-remunerated deposits on a fraction of specific foreign investments, albeit in Colombia some administrative measures were also adopted (e.g. a two years compulsory stay for FDI inflows to prevent portfolio inflows 'disguised' as FDI from overcoming capital controls). These capital controls were removed gradually when the economic and financial crisis impacted the region. The assessment of the introduction of taxes and burdens on capital inflows has been mixed. On the one hand, capital controls received criticism for being ineffective or inefficient. On the other hand, there is growing agreement that countries have few options left to deal with short-term capital inflows, and that these policy measures can be the "less bad" amongst them.²⁷

At the same time, most Latin American countries experienced rapid credit growth, partly driven by the ongoing process of financial deepening in the region, and by a normalization of credit levels after the slump following previous financial crises. These developments were at times perceived as symptoms of excessive credit expansion and overheating. Most Latin American central banks monitored carefully credit growth and took complementary measures when standard tools such as interest rate increases were not effective enough to curb credit growth. For instance, in Colombia and Peru central banks increased reserve requirements in the first half of 2007 and 2008.²⁸

In addition, during the last few years central banks monitored carefully the currency composition of lending, and took a number of measures to reduce financial dollarization. These measures can be classified in three groups: long-term prudential regulation, ad-hoc regulatory measures and macroeconomic policies. Firstly, prudential regulation was increasingly designed to reduce the risks of financial dollarization. This included limits to net foreign currency positions of the banking systems (short and long) and in some cases additional capital requirements to cover risks arising from foreign currency positions [see BCRP (2005)]. Second, some central banks resorted also to ad-hoc measures to deal with foreign currency growth. For instance, the central bank of Peru tightened reserve requirements for foreign currency liabilities to increase the costs of foreign currency lending and to curb credit expansion. In Colombia the central bank tightened capital requirements on long/short net foreign currency asset positions of the banking system. Finally, some macroeconomic policies contributed to mitigate further increases in financial dollarization. For instance, floating exchange rates and the de-dollarization of public debt increased the perceived risks of foreign currency borrowing for the private sector.

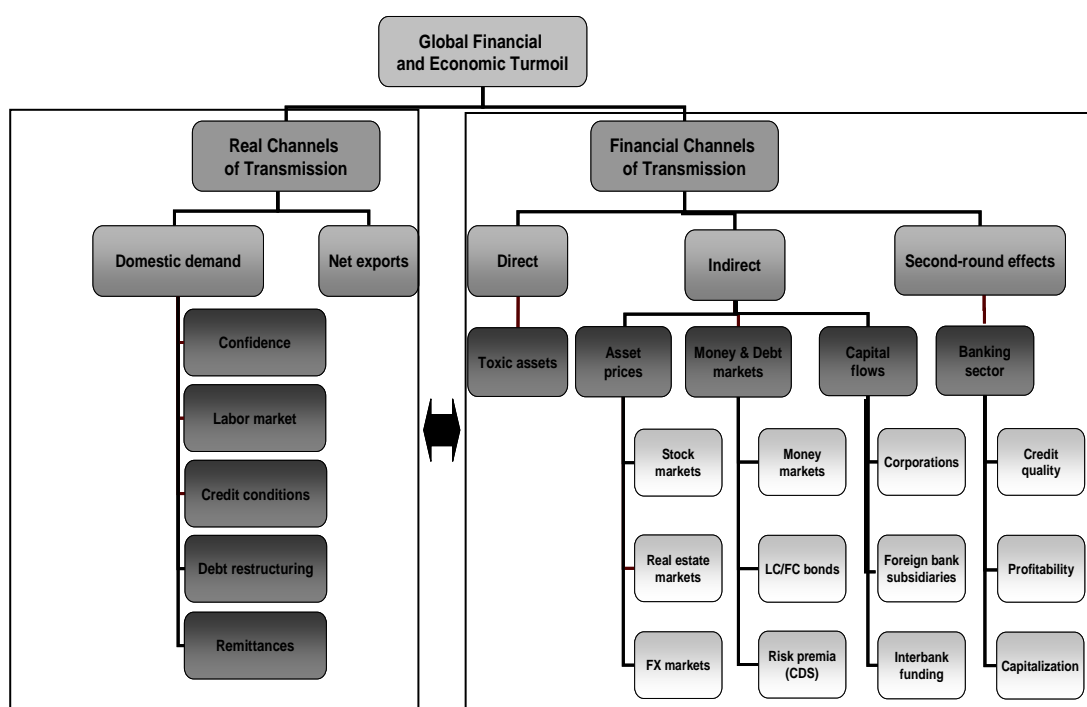
27. See FT (2009), as well as Mohan and Kapur (2009) and more recently Ostry et al. (2010).

28. The Central Bank of Brazil also introduced a timetable to increase the reserve requirement on certain deposits to curb credit growth during 2008, but removed it due to the impact of the global crisis.

3 The Impact of the Financial and Economic Crisis on CESEE and Latin America

Disruptions in global financial markets were transmitted to CESEE and Latin America through direct, indirect and second-round financial transmission channels (graph 13).²⁹ Losses due to changes in the prices of ‘toxic’ financial assets in the portfolio of financial institutions (the main direct channel of transmission of the crisis) were limited in both CESEE and Latin America because financial sectors in these countries tended to exhibit a low degree of “sophistication”, including a negligible market penetration by complex financial products. In addition, capitalising on the profitable and booming local lending business in largely unsaturated markets seemed more promising for banks in CESEE and Latin America than engaging in foreign structured products for which demand was low or non-existent.

Graph 13: Transmission channels of the global economic and financial crisis to emerging markets



Indirect financial channels of transmission relate to negative developments in asset prices, money and debt markets and capital flows due to the deterioration of foreign investor sentiment toward emerging markets. Losses of investor confidence hit emerging markets firstly via foreign exchange, stock and real estate markets. This in turn can have negative impacts on the real economy by lowering consumption and slowing investment activity. In addition, a weakening of currencies can drive up inflation and also pose a challenge for banking sectors in countries with sizeable foreign currency lending to unhedged borrowers. At the same time, increases in risk aversion could reduce the access to financing for

²⁹ According to Balakrishnan et al., 2009, second-round effects of spillovers from affected emerging economies to developed countries and/or spillovers among emerging economies would be conceivable as well.

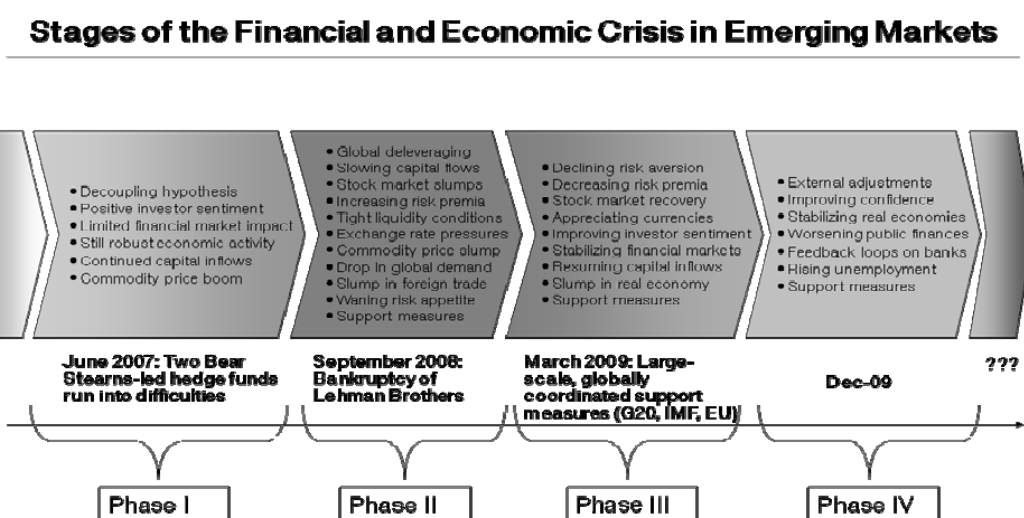
governments (but also corporations and banks) on money and debt markets and/or make it more expensive. Finally, a slowdown (or a sudden stop) in capital inflows would hit mainly corporations and banks in countries with heavy reliance on foreign funding. One specific case could have been that of international banks that needed to deleverage and cut back exposures in emerging economies.

Second-round effects refer to feedback loops from a slump in economic activity which may negatively impact financial institutions (predominantly banks), inter alia via deteriorating credit quality, rising non performing loans, declining profitability and increased problems to retain the necessary capitalization.

These financial channels of transmission, together with a dramatic reduction in external demand and —in the case of Latin America— a slump in commodity prices, severely affected the real economy in both regions.

Emerging markets went through different stages as the economic and financial crisis intensified (graph 14).³⁰ Given no or negligible exposures to subprime or subprime-related assets and the ongoing raw material boom (relevant in particular for Latin America), financial markets and the real economy in these emerging market regions weathered the international financial market turbulences relatively well until mid-September 2008 (Phase 1).

Graph 14: Stages of the economic and financial crisis in emerging markets



However, after the failure of Lehman Brothers in September 2008, the global financial market turmoil gained markedly in depth and intensity and waning foreign investor confidence towards emerging markets dashed the hope of decoupling (Phase 2).³¹ In fact, in Phase 2 of the crisis, emerging markets (in particular those more financially integrated with global financial markets) were hit hard via the indirect financial transmission channels, with the CESEE region in some respects being hit harder than Latin America. At the same time, in light

³⁰. While general developments show a similar pattern in all emerging economies, differences across countries and regions are considerable.

³¹. See Frank and Hesse (2009).

of the slump in global demand the foreign trade channel started to unfold. Financial market conditions remained tense in emerging markets until March 2009, when the long-lasting downward rally finally came to a halt and financial markets stabilized.

Driven by highly accommodative monetary policies in the industrial world as well as large-scale coordinated support measures (e.g. by the IMF and the EU), global investor sentiment improved again, starting from the second quarter of 2009 and led to a strong recovery of financial markets in both regions (Phase 3). At the same time, the real transmission channels (especially the domestic demand channel) unfolded with some time lag and despite financial markets recovering, real economic activity remained weak. Phase 4 of the economic and financial crisis started later in 2009 although feedback loops on the banking system through rising non performing loans and second-round effects on labor markets via rising unemployment can continue to be a drag on economic growth.

Impact on Selected Financial Market Segments

STOCK MARKETS

Until the Lehman collapse, CESEE and Latin American stock markets outperformed other emerging markets. Only after September 2008 these markets came under intense pressure (graph 15) although stock markets in Latin America started to lose momentum already in July 2008. This can mainly be attributed to the large weight of commodity sector companies in Latin American stock markets,³² which came under increased pressure with the end of the global commodity price boom in July 2008.

After the Lehman collapse, however, CESEE was more severely affected than Latin America, mainly due to the increasing external financing risks which resulted in large-scale international support (IMF, EU) for some countries (Hungary, Latvia, Romania). As a result, CESEE stock markets had lost some 70-80% in value by the end of February 2009, compared to pre-crisis levels, while losses were less pronounced in Latin America.

Stock market developments diverged not only between but also within the two regions.³³ In CESEE, the downward correction was particularly severe in the Baltic States and SEE, while in Latin America Peru and Argentina were affected the most. These national differences can to a large extent be explained by country-specific political, economic and social aspects, adversely impacting (foreign) investor sentiment. In many countries the stock market plunges in 2008 and early 2009 may also be seen in the context of long-lasting rallies before the economic and financial crisis.

32. See Banco de España (2008). Commodity producers and exporters account for over 40% of the stock market capitalization in the region, a share much larger than in other emerging market regions. This can explain most of the excess stock market returns in Latin America during 2007 and 2008 compared to other emerging market regions.

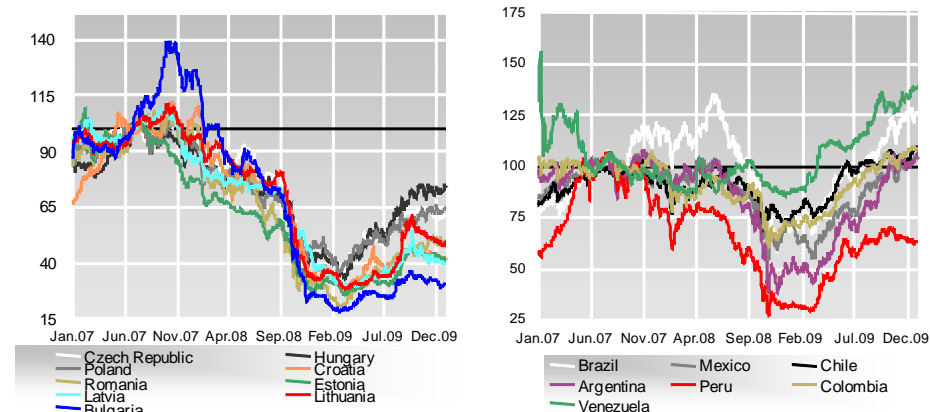
33. In most Latin American or CESEE countries stock markets are not too relevant for the economic performance. They are generally small and much less important as a source of finance or wealth than alternative markets such as bank loans. They are, however, of considerable value as “thermometers” of market sentiment.

Graph 15: Stock market developments

Stock market developments

29.06.2007 = 100

Cut-off date: 31/12/2009



Source: Datastream, OeNB, BdE.

Since early-March 2009 most Latin American and CESEE stock markets staged a significant rally, driven mostly by the improvement in global sentiment. The largest stock markets in Latin America (Brazil and Mexico) increased by more than 80%. Other stock markets increased between 50% and 140%. A similar picture emerges in CESEE, where stock exchanges in Hungary and Romania rallied by 100% and 170%, respectively, whereas those in other countries gained considerably less. At the end of 2009 stock markets in all Latin American countries were again at or above pre-Lehman levels. In CESEE, however, even the best performing stock markets reached only 70-75% of their pre-crisis levels.

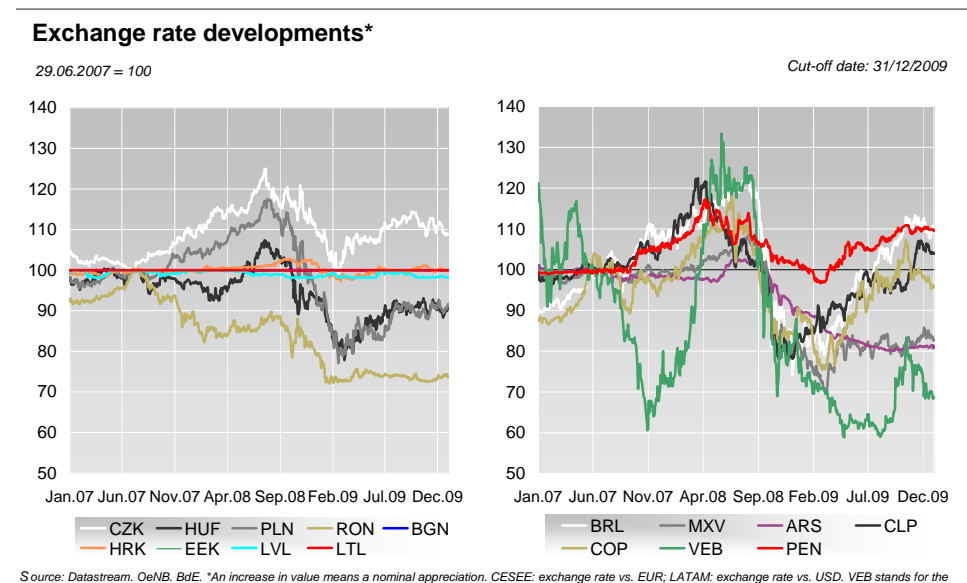
FOREIGN EXCHANGE MARKETS

Between the outbreak of the economic and financial crisis and the Lehman collapse, most Latin American and some CESEE currencies (namely those with flexible exchange rate regimes, except the Romanian leu) appreciated substantially (graph 16). But similar to stock market developments, downward exchange rate adjustments started in Latin America (e.g. Brazil, Chile) somewhat earlier than in CESEE given the collapse in global commodity prices in mid-2008. Tensions intensified thereafter, with capital outflows putting strong downward pressure on all currencies in both regions. In fact, the crisis reached Latin America as dollar funding markets seized up, putting enormous pressure on local foreign exchange rates. As a reaction, countries with floating exchange rates, such as Brazil, Mexico, Chile or Colombia allowed their currencies to depreciate quite sharply (40-50%), even if central bank intervention played a key role at moderating excessive volatility. In Argentina and Peru, where balance sheet effects are a more important concern, exchange rates were initially kept more stable by means of intervention and in the former case by rising interest rates. Downward pressures on regional currencies were exacerbated by other factors, such as the reversal of foreign exchange derivative transactions by nonfinancial corporations in Mexico and Brazil, or by the population's increasing demand for USD as a safe-haven currency in Argentina.

After the Lehman collapse, free-floating CESEE currencies came also under intensified market pressure. This was due to a mix of strongly appreciating (possibly overshooting) currencies before the crisis, negative global investor sentiment, perceptions of an approaching end of the policy rate cycle and, in some cases, adverse country-specific factors. By mid-February 2009 all floating CESEE currencies recorded substantial losses

vis-à-vis the euro, ranging from 20% in the Czech Republic and Romania to some 40% in Poland. Exchange rate pressures prompted many central banks to intervene either verbally (e.g. Czech Republic, Poland, Romania and Hungary) and/or through direct foreign exchange market interventions (e.g. Hungary, Romania).³⁴ Among the CESEE countries with fixed and quasi-fixed exchange rates, the currencies of Latvia and Croatia also experienced downward exchange rate pressures, and central banks in both countries intervened to keep the exchange rate within the +/-1% fluctuation band (Latvia, also supported by an IFI/EU support package) or to prevent a more marked weakening (Croatia).

Graph 16: Exchange rate development



Since March 2009 most Latin American and most flexible CESEE currencies (apart from the Romanian leu) recovered substantially. All Latin American currencies but the Argentine peso, the Venezuelan Bolivar fuerte and the Mexican peso were quoted above their pre-Lehman levels at the end of 2009. Brazil and Peru started to restrict capital inflows again, given renewed appreciation pressures.³⁵ By contrast, all flexible CESEE currencies were still below the September 2008 levels.

MONEY AND DEBT MARKETS

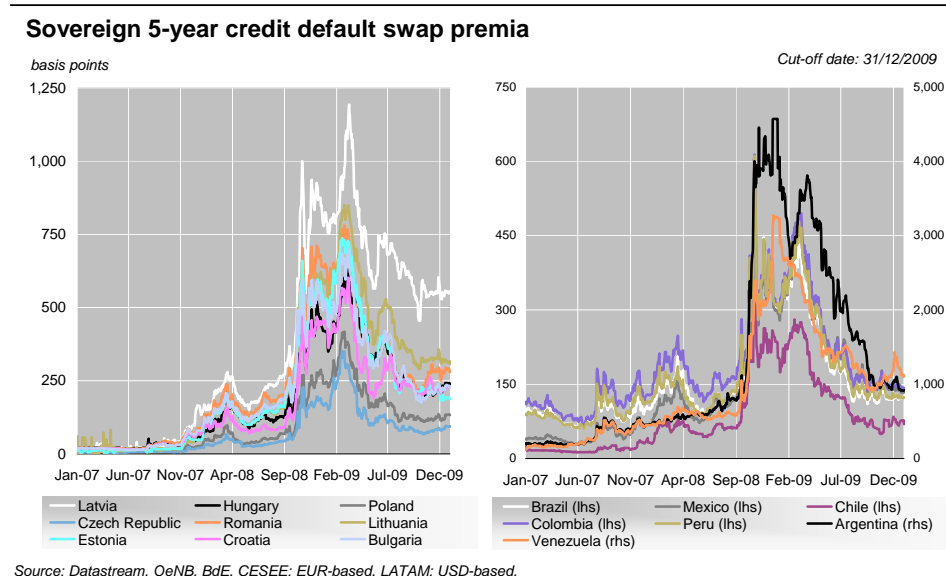
Money market tensions started to increase as of year-end 2007 and showed up in rising interest rates. In the first half of 2008, this development was mainly driven by monetary tightening to counter inflationary pressures, which peaked in almost all CESEE and Latin American economies in mid-2008. In the latter part of 2008, waning foreign investor confidence, rising political and economic uncertainties, heightened liquidity pressures on interbank markets, policy rate hikes to stop capital outflows and stabilize exchange rates (e.g. in Hungary) and speculative pressures against some currencies (e.g. Romania, Latvia) added to money market pressures.

³⁴. In addition, Poland and Hungary started to exchange EU funds (which were previously exchanged with central banks) directly on foreign exchange markets to support their currencies.

³⁵. In October 2009 Brazil introduced a 2% tax on capital inflows to the local bond and stock markets.

Sovereign Euro/Dollar bond yield spreads showed notable resilience during the first crisis year, especially compared to past crisis episodes. Indicative of the resilience were rating upgrades in some countries (e.g. Mexico, Chile, Peru, Brazil, Czech Republic and Poland) and continued access to international markets for sovereign and corporate issuers. After September 2008, however, yield spreads widened considerably in all countries. The fall in foreign investors' risk appetite, downgrades by rating agencies (e.g. Baltic States, Hungary and Romania) as well as rising political and/or economic risks underpinned this development. Latin American and CESEE bond markets were rather heterogeneous. Spreads in higher risk countries (e.g. Argentina, Venezuela, Hungary, Latvia and Romania) widened considerably more than in less vulnerable countries.³⁶ Since March 2009, spreads came down considerable across countries on the back of improving market sentiment.

Graph 17: Sovereign 5-year credit default swap premia



Turning to risk premia, 5-year sovereign CDS spreads trended upward in 2008 and early-2009 on the back of sharply increasing global risk aversion and rising external financing and default risks (graph 17). Accompanied by a high degree of volatility CDS spreads peaked in Latin America and CESEE in early-March 2009, in Argentina and Venezuela somewhat earlier. Similarly to bond spreads, CDS spreads rose rather strongly in countries with larger imbalances. Amidst a more favorable global environment and stepped-up international support, risk premia came down markedly since then in all countries. At the end of 2009, CDS spreads for most CESEE and Latin American countries reached (or were even lower than) pre-Lehman levels.

³⁶. In some CESEE countries local currency-denominated government bond markets came also under severe pressure in the last few months of 2008.

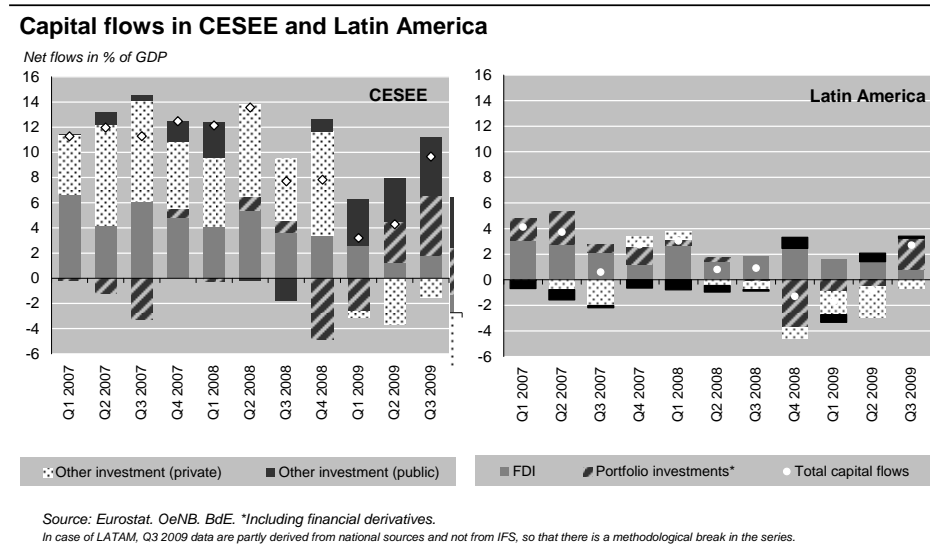
CAPITAL FLOWS

CESEE and Latin America were also affected by the financial turmoil via the tightening of global credit conditions, resulting in a slowdown (or temporary reversal) of capital inflows. In order to draw a comprehensive picture of the performance of capital flows, we look at total capital flows according to balance-of-payments statistics, at external debt statistics, and at claims and liabilities of BIS reporting banks.

As regards total capital flows, the CESEE region as a whole experienced larger adjustments during the crisis than Latin America. However, while total capital inflows moderated much more for the CESEE region than for Latin America, given the higher inflows into Emerging Europe before the crisis, total inflows into CESEE remained in positive territory in the final quarter of 2008 and the first half of 2009, while Latin America recorded net outflows in the last quarter of 2008 and the first half of 2009. It has to be noted that a number of CESEE countries had sizeable current account deficits in late 2008, and thus required higher capital inflows at the time, while in Latin America the current account was close to balance.

In more detail, in the second half of 2008 and then again in the first half of 2009 net capital inflows dropped considerably in CESEE, from some 12% of GDP to some 4% of GDP (graph 18). In Latin America, net capital inflows, which were less sizable before the crisis than in CESEE, also slowed down and even shifted into net outflows from the last quarter of 2008 onwards. Almost all CESEE and Latin American countries recorded temporary portfolio investment withdrawals which were rather significant in some countries, mainly in the last quarter of 2008. The picture in CESEE changed in the second quarter of 2009, when portfolio investments turned positive on the back of improved global foreign investor sentiment. In CESEE net FDI inflows decelerated as well but remained positive in most countries and FDI inflows to Latin America were almost unchanged. In both regions total net inflows picked up again during the third quarter of 2009.

Graph 18: Capital flows



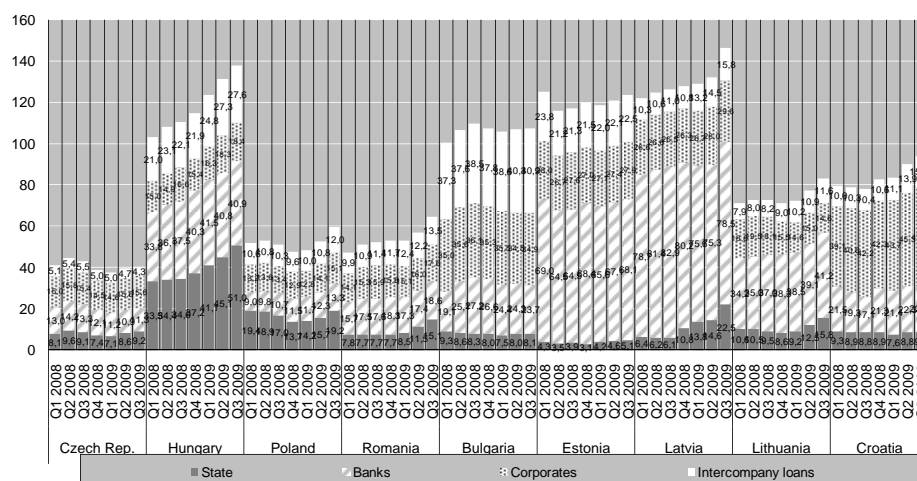
Without other (public) investments (which include IFI/EU financial assistance) net flows to CESEE were about zero in the last quarter of 2008, and then again positive in the first and second quarters of 2009. However, for some CESEE countries, private financial flows were not enough to cover the financing needs in the final quarter of 2008. Therefore, in CESEE, the financing gap was covered with international reserves and, in some countries, by making recourse to IFI/EU credit (for more details see section 4). This is an important difference with Latin American countries, where financing needs were covered with international reserves. The worst-case scenario of a fully-fledged financial meltdown neither occurred in the CESEE region nor in Latin America. In this regard, international support measures from the IMF and the EU were instrumental in restoring confidence, and so was the increased role of emerging economies in the international policy discussions, notably in the G20.

Second, external debt statistics (graphs 19 and 20) show that the corporate sectors' gross foreign debt stock (excl. intercompany loans) fell or remained stable in absolute terms in most CESEE countries from mid-2008 to the first quarter of 2009. This suggests that fewer or no new credit lines were granted and/or some existing credit lines were not rolled over or were called due early, although demand side factors might have played a role too. Given the more favorable global environment, however, this trend reversed thereafter. In Latin America the corporate sector's external debt relative to GDP remained steady or increased moderately in most countries in this period, Argentina being the exception. The October 2009 IMF Global Financial Stability Report suggests, however, that roll-over rates of foreign exchange-denominated corporate debt were during the peak of the crisis substantially lower in Latin America than in CESEE.

Graph 19: External debt structure by debtors in CESEE

External debt structure by debtors in CESEE

% of GDP

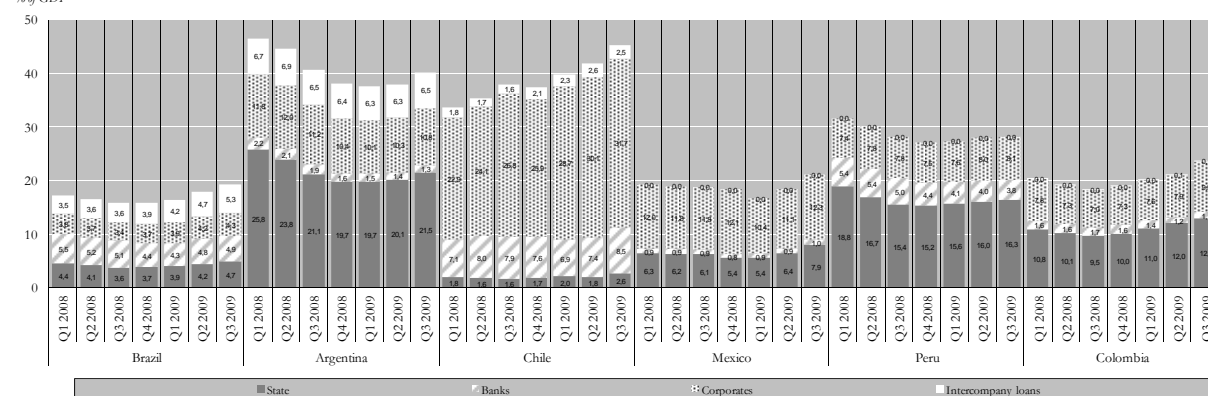


Source: NCBs, OeNB.

Graph 20: External debt structure by debtors in Latin America

External debt structure by debtors in Latin America

% of GDP



Source: NCBs, BfE, OeNB.

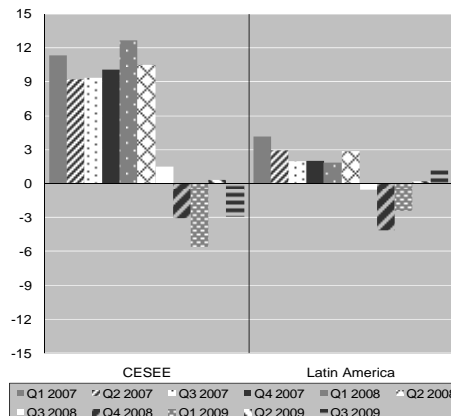
Third, looking at claims and liabilities of BIS reporting banks (graph 21, based on the BIS locational statistics), capital inflows to Latin America and in particular to CESEE remained fairly strong until and including the first half of 2008. Following the Lehman collapse, however, capital inflows slowed down, with the claims of BIS reporting banks decreasing noticeably in the fourth quarter of 2008 and throughout the first three quarters of 2009 in most countries in line with the process of global deleveraging. In particular, in CESEE there were outflows in countries with rather liquid banking systems (especially the Czech Republic), implying that parent banks may have temporarily withdrawn liquidity from these markets to meet their liquidity needs at home [Mihaljek (2009)]. While banking outflows were sizeable in a few cases, claims of BIS reporting banks have remained surprisingly steady in some CESEE countries, which can be traced back to the stability of parent bank financing [EBRD (2009) and ECB (2009)]. The liabilities of BIS reporting banks vis-à-vis CESEE and Latin America turned negative in the second half of 2008 and first quarter of 2009. At first sight, this seems to be an indication that tight global liquidity conditions and limited access to foreign funding entailed banks and corporations in Latin America and especially in CESEE to repatriate parts of their foreign assets³⁷. In some cases this was in fact supported by central bank measures (e.g. in Croatia). A closer look, however, shows that for CESEE a large part of the reduction of liabilities of BIS reporting banks vis-à-vis CESEE was due to transactions of the National Bank of Poland which are related to foreign exchange reserve management (shift out of deposits with foreign banks and into foreign government securities) and balance sheet shortening (presumably to limit counterparty risk; for more details see Box 3).

³⁷ The figures may be distorted by valuation effects apart from exchange rate changes which, however, cannot be separately identified.

Graph 21: Claims and liabilities of BIS reporting banks

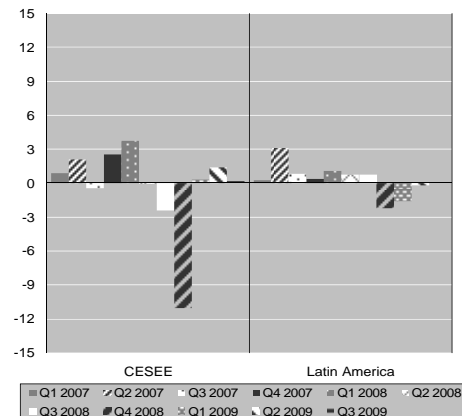
Claims of BIS reporting banks

exchange rate-adjusted changes in stocks, in % of GDP



Liabilities of BIS reporting banks

exchange rate-adjusted changes in stocks, in % of GDP



Source: BIS, OeNB, BdF

Overall the global economic and financial crisis had a major impact on capital flows to CESEE and Latin America, although the magnitude of the impact differed, depending on the type of capital inflows and the receiving country. External financing problems mounted in a few CESEE countries in late 2008/early 2009, and IFI/EU assistance was needed to stabilize the situation. The available data suggest that capital outflows were temporary and that in particular FDI inflows, intercompany loans, and, for some CESEE countries, multilateral assistance, played a positive role since the outbreak of the crisis.

Box 3: Capital Flows from BIS Reporting Banks during the Crisis: A Closer Look at the CESEE Region

This box examines cross-border claims and liabilities of BIS reporting banks in somewhat greater depth for the CESEE region. It does so by exploring some country-specific developments which drive the aggregate figures presented above.

Cross-border claims of BIS reporting banks

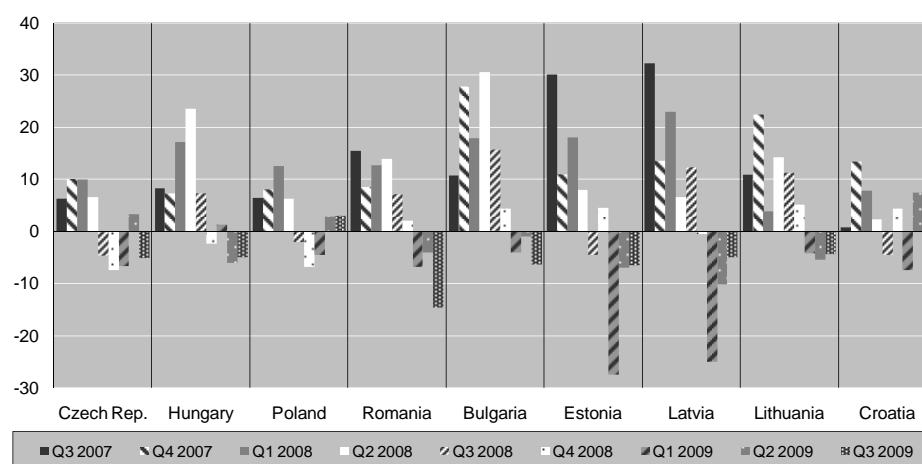
A closer analysis of developments in the final quarter of 2008 shows that regional figures of cross-border claims of BIS reporting banks mask diverging trends within the CESEE region:

- There was a reduction of claims on countries with liquid banking markets [Mihaljek (2009)], i.e. markets with comparatively low loan-to-deposit ratios (especially the Czech Republic, but also Poland and Croatia). IMF and national statistics (on international investment position and balance of payments) show, however, that Polish commercial banks succeeded in getting additional funds (above repayment amounts) from abroad, including from foreign banks during the last quarter of 2008. By contrast, the Polish central bank sharply reduced its external liabilities in the final quarter of 2008, as it decided to wind-up the existing stock of cross-border repo transactions. Thus, the substantial decline of cross-border claims of BIS reporting banks vis-à-vis Polish banks (including the central bank) resulted very probably exclusively from the decline in their claims vis-à-vis the Polish central bank, while their claims against Polish commercial banks (partly being their subsidiaries) increased. At the same time, cross-border claims of BIS reporting banks vis-à-vis Polish non-banks declined moderately.
- Claims continued to increase in many CESEE countries in the last quarter of 2008. This suggests that parent banks retained/increased their exposure as non-parent bank financing was certainly not strong during the crisis [EBRD (2009) and ECB (2009)].
- In the Baltics, however, the reduction of claims (especially in the first half of 2009) can also be explained with the deep recession, i.e. with real economy arguments.

Finally, it is worthwhile mentioning that claims on CESEE relative to GDP had risen much more strongly before the crisis than claims on Latin America, due to higher external financing needs. Thus, the potential for a reduction of claims was considerable, but in the event the reduction in claims on the CESEE region was not significantly higher, relative to GDP than for other EME regions (again, with considerable variation across countries, as observed in the chart below).

Claims of BIS reporting banks

exchange rate-adjusted changes in stocks, in % of GDP



Source: BIS, QeNB.

Cross-border liabilities of BIS reporting banks

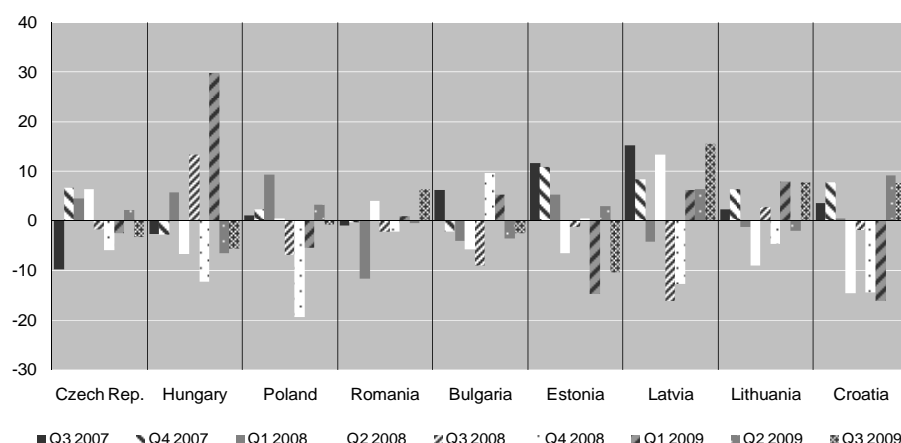
Cross-border liabilities of BIS reporting banks vis-à-vis the CESEE region displayed a sizeable fall in the final quarter of 2008. Country-specific figures show that the difference is due to developments in Poland where liabilities fell substantially in the last quarter of 2008. What was driving this? A closer analysis yields the following points:

- According to BIS data, the sizeable decline of cross-border liabilities of BIS reporting banks vis-à-vis Poland was exclusively due to the decline of liabilities vis-à-vis banks located in Poland (including the central bank), while the liabilities vis-à-vis non-banks increased moderately.
- Cross-border liabilities of BIS reporting banks vis-à-vis Polish banks should be reflected by and large in corresponding external asset items of Polish banks (including the central bank) shown by IMF and national IIP statistics. Looking in addition at IMF and national statistics allows separating between Polish commercial banks and the Polish central bank.
- According to IMF and national statistics, about three quarters of the decline of BIS reporting banks' cross-border liabilities against Polish banks resulted from transactions by the National Bank of Poland (NBP):
 - Half of this reflected the NBP's decision to invest into safer foreign government securities by reducing deposits with foreign banks (FX reserves management).
 - Half of this decline related to the NBP's decision to wind-up the stock of existing cross-border repo transactions on both the liabilities and the assets side of the NBP's balance sheet, presumably to reduce its exposure to counterparty risks: thus, both external assets and external liabilities of the NBP were reduced in parallel, leading to a reduction of both liabilities and claims of BIS reporting banks against the NBP.
- About one quarter of the decline of BIS reporting banks' cross-border liabilities against Polish banks resulted from transactions by Polish commercial banks (which are mainly subsidiaries of BIS reporting banks):
 - Polish commercial banks reduced their deposits with foreign banks abroad (partly BIS reporting banks as parent banks). This implied a net inflow (on the assets side) in the balance of payments.

Moreover, as noted above (in the context of cross-border claims of BIS reporting banks), Polish commercial banks succeeded in getting additional funds by increasing their liabilities against foreign banks abroad during 2008 Q4. This implied another net inflow (on the liabilities side) in the balance of payments.

Liabilities of BIS reporting banks

exchange rate-adjusted changes in stocks, in % of GDP



Source: BIS, OeNB

BANKING SECTOR AND CREDIT DEVELOPMENTS

Banking sectors in CESEE and Latin America were fairly resilient to the global financial turmoil until autumn 2008. Profitability levels remained high thanks to strong (albeit decelerating) credit growth and the share of non-performing loans was fairly low. The tight global liquidity conditions (also before Lehman), the slowdown in capital inflows (after Lehman) and banks' increased risk aversion affected, however, bank lending throughout CESEE and Latin America. In most countries credit growth decelerated sharply or came to a halt in 2008 and the first half of 2009 (graph 22).³⁸ Having said this, in some CESEE countries credit growth had been particularly rapid before the crisis (e.g. Bulgaria, Latvia and Romania). In Latin America credit growth moderated especially in the retail segment, while in CESEE loans to nonfinancial corporations decelerated more strongly. Within Latin America, the tightening of bank credit conditions was particularly important in Brazil, but the decline in credit growth was cushioned by the pick-up in credit granted by public banks and the national development bank (BNDES).³⁹

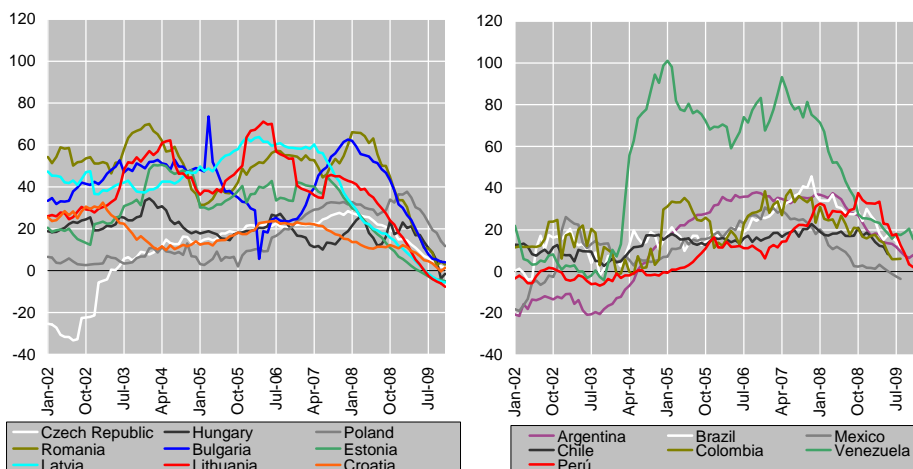
38. This process started already in 2007 in the Baltic States (in line with the earlier start of the economic downturn) and in Croatia (mostly due to restrictive central bank measures).

39. Moreover, the central bank took measures to loosen credit conditions (in particular, a substantial reduction in reserve requirements), which contributed positively to credit growth.

Graph 22: Domestic credit growth

Domestic credit

yoy change, %, nominal, non-bank non-government sector



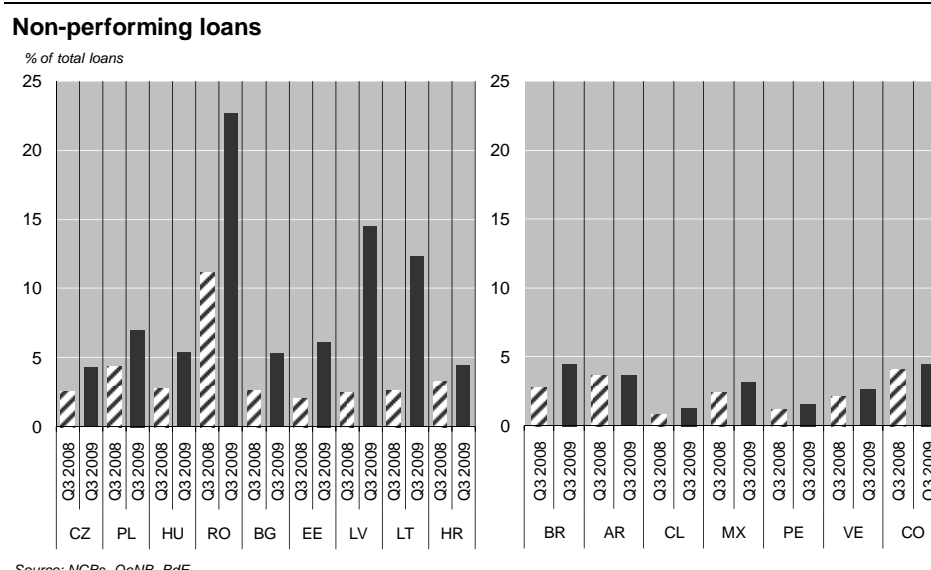
Source: Eurostat, OeNB.

Deposit growth also came down to more moderate levels, in CESEE especially in the Baltic and SEE countries. This can be attributed to worsening labor market conditions and, in a few countries, temporarily waning public confidence in banks.⁴⁰ At the same time, the currency composition of savings hardly changed, with the share of foreign currency deposits remaining fairly stable around 23%. In Latin America, deposit growth also slowed down markedly in most countries and some countries (e.g. Argentina) saw an increase in the proportion of foreign currency deposits (mainly USD) together with an important deposit flight. The latter reversed during the course of 2009.

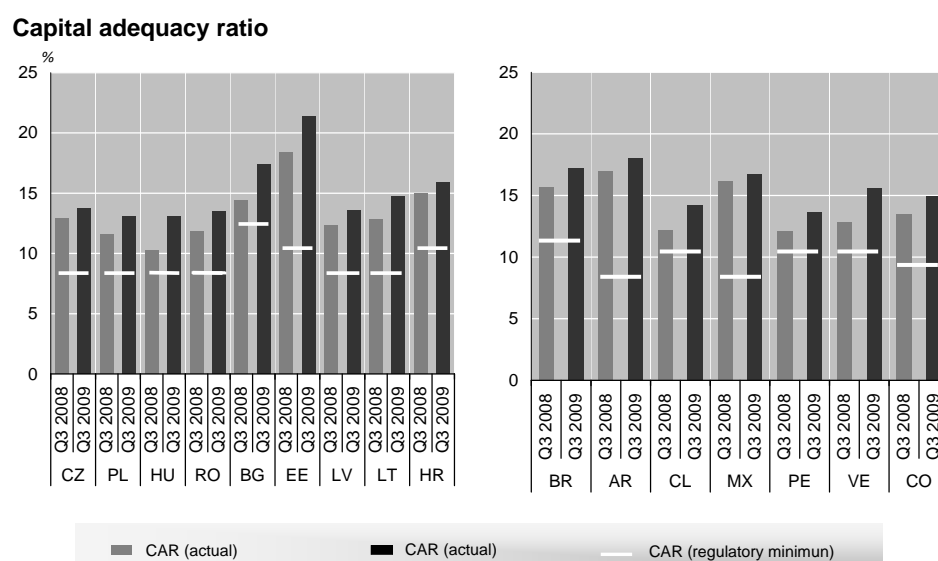
The worsening economic fundamentals amplified credit and foreign exchange risks (especially in many CESEE countries). The deteriorating global economic environment started to take a toll on borrowers' ability to repay their loans, in particular in countries with depreciating nominal exchange rates and a high share of foreign currency denominated loans (e.g. Hungary, Poland and Romania). Consequently, the share of non-performing loans in total loans started to pick-up throughout Latin America and even more so in CESEE towards end-2008 and increased further during the first three quarters of 2009 (graph 23). In CESEE, this development was particularly pronounced in Latvia, Lithuania and Romania. The increased credit risks and the related higher need for provisioning started to put a strain on banking sector profitability in CESEE and Latin America. In CESEE, profitability indicators deteriorated particularly strongly in the Baltic States, where the banking sectors even recorded losses in the first three quarters of 2009.

⁴⁰. Some countries (e.g. Bulgaria and Croatia) experienced temporary deposit withdrawals by households in late 2008. For further details see Dvorsky, Scheiber and Stix (2009).

Graph 23: Non-performing loans



Graph 24: Capital adequacy ratio



On a more positive note, CESEE and Latin American banking sectors were well capitalized and showed considerable resilience in confronting the economic downturn. Despite isolated episodes of individual bank failures (e.g. Latvia's Parex Bank or a few small banks in Venezuela, the latter due to failure to comply with regulatory requirements and other factors) banking stability seemed not at risk in any of the countries under review. Capital adequacy remained stable at fairly high levels of over 10% in all CESEE and Latin American countries (graph 24), well above the internationally propagated 8%. This reflects higher capital adequacy requirements in many CESEE and Latin American countries against the

background of presumably more risky business environments, but in CESEE may also be the result of the dominant position of foreign banks with parent banks committing themselves to keep their subsidiaries' capitalization at elevated levels.

Impact on the Real Economy

Economic activity in Latin America and CESEE was severely affected by the aforementioned disruptions in financial markets and the collapse in external demand. Before comparing the real economic impact of the global economic and financial crisis in Latin America and CESEE, however, three important observations shall be made. First, it is essential to account for the different starting points in terms of vulnerabilities at the onset of the crisis. As noted above, while most Latin American countries started from a favorable economic and financial situation, some CESEE countries piled up sizeable domestic and external imbalances during the recent boom period. In these countries the real spillovers from the global economic and financial crisis might have worked not so much as a trigger but more as an amplifier of an economic downturn that was already underway when the global crisis hit. Second, some of the real transmission channels —especially the domestic demand channel— unfolded their full impact with some time-lag. In most countries under review the crisis had hardly any visible impact on the real economy until the third quarter of 2008.⁴¹ In the final quarter of 2008, however, in parallel with the indirect financial transmission channels, the foreign trade channel started to kick in on the back of a slump in global demand, triggering a slowdown in economic growth in all CESEE and Latin American countries. This channel was particularly strong for CESEE, given the region's high trade openness and the large share of manufactured products in CESEE's exports. However, while the economic and financial crisis fully spilled over to the real economy in the first half of 2009 (with both foreign trade and domestic demand channels at work) and economic activity slumped throughout Latin America and CESEE, financial markets started to recover in the second quarter of 2009.⁴² Third, despite a high degree of overall synchronization across countries, the various CESEE and Latin American countries seem to differ considerably in terms of the relative significance of the different channels.

The trade channel appears to have been the most prominent real transmission channel of the crisis for both regions. This is not surprising, given the regions' high degree of trade integration with the EU, respectively with the US, and more broadly with the world economy through commodity markets. The collapse of trade flows was driven by the plunge in global economic growth in the second half of 2008 and exacerbated by the drying up of capital flows which are relevant for trade finance. The effects of the plunge in foreign trade volumes on GDP depended on each country's trade openness and trade specialization. Alongside volume effects, sharp (but temporary) downward adjustments in global commodity prices put additional pressure on exports of major commodity exporters (e.g. Argentina, Chile, Venezuela and Peru). At the same time, imports collapsed on the back of a slump in domestic demand and gloomy export prospects, given the high import content of exports in some Latin American and CESEE economies. However, with imports falling stronger than exports, the contribution of net exports to GDP growth turned positive in most countries (graphs 25 and 26).

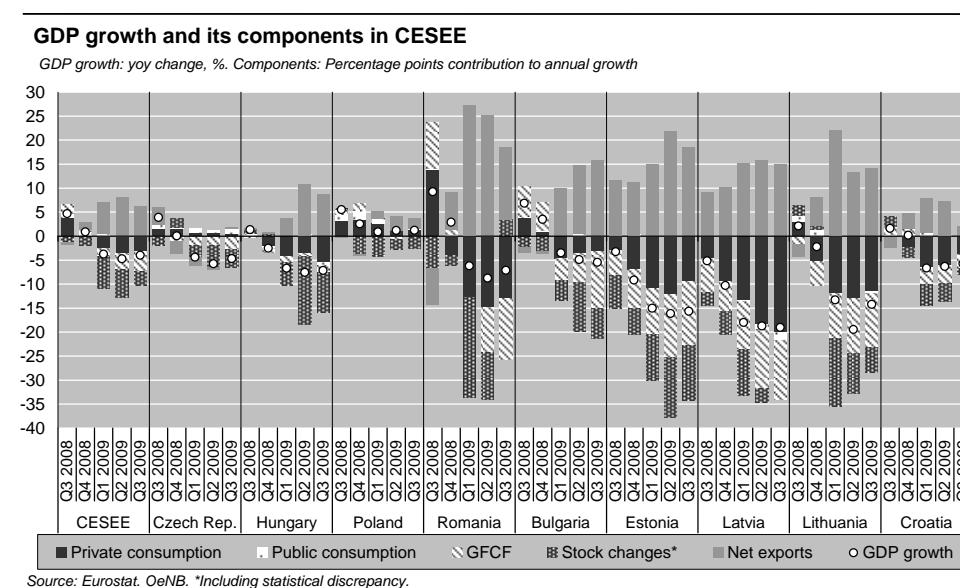
The slump in domestic demand in Latin America and CESEE in late 2008 and a large part of 2009 was inter alia caused by tightening credit conditions, deteriorating business and consumer confidence, worsening labor market conditions and a slowdown in remittance

⁴¹ In the Baltic countries the economic slowdown (triggered by domestic factors) started somewhat earlier.

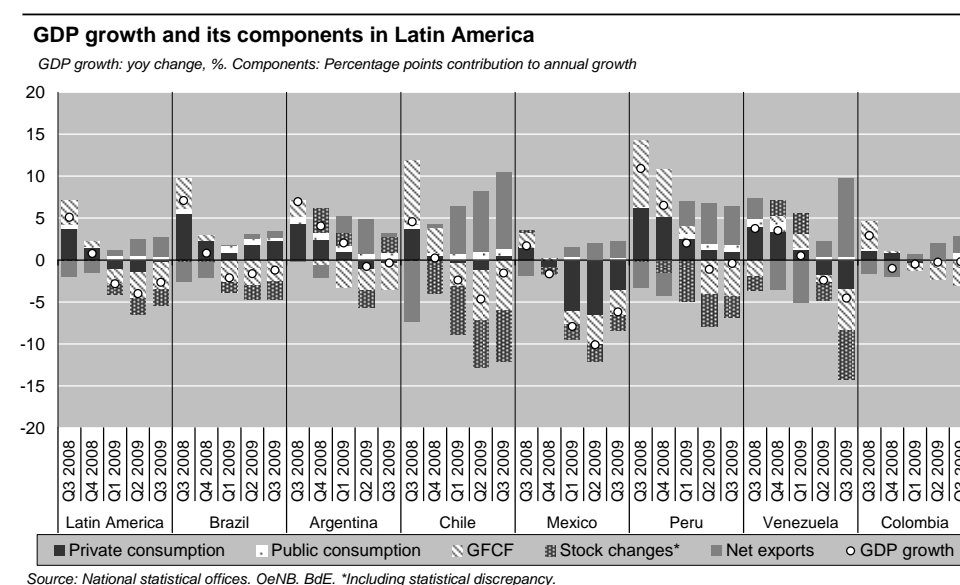
⁴² Only some countries, such as Poland, continued to record moderate positive economic growth. This might be attributable to the lower initial levels of vulnerability as well as a lower degree of export dependence.

flows. The composition of GDP growth thus showed major adjustments in domestic demand, especially in the first half of 2009. The biggest adjustments were seen in gross fixed capital formation, which is the most cyclical component and affected most directly by changes in the availability and cost of funding.⁴³ The slowdown in investment was generally more pronounced in CESEE (especially in the Baltic States, Romania and Bulgaria, where this component of domestic demand had shown very strong dynamics in the run-up to the crisis) than in Latin America, although in this region Argentina, Brazil, Chile and Mexico showed an important slowdown. Developments were similar, albeit not as severe, in private consumption, with the slowdown being more pronounced in the Baltic States, Romania and Mexico.

Graph 25: GDP growth and its components in CESEE



Graph 26: GDP growth and its components in Latin America



⁴³ In some Latin American countries the fall in commodity prices might have added to the slump in GFCF, as investments in the commodity sector explain a substantial portion of industrial investment.

4 The Policy Response So Far

The policy response to the crisis in both regions focused on three areas: 1) Standard monetary policy measures, in particular changes in interest rates, 2) non-standard monetary and financial policy action, including liquidity and exchange rates supporting measures, and 3) fiscal policy. In addition, international policy measures also played a key role.

Standard Monetary Policy Measures

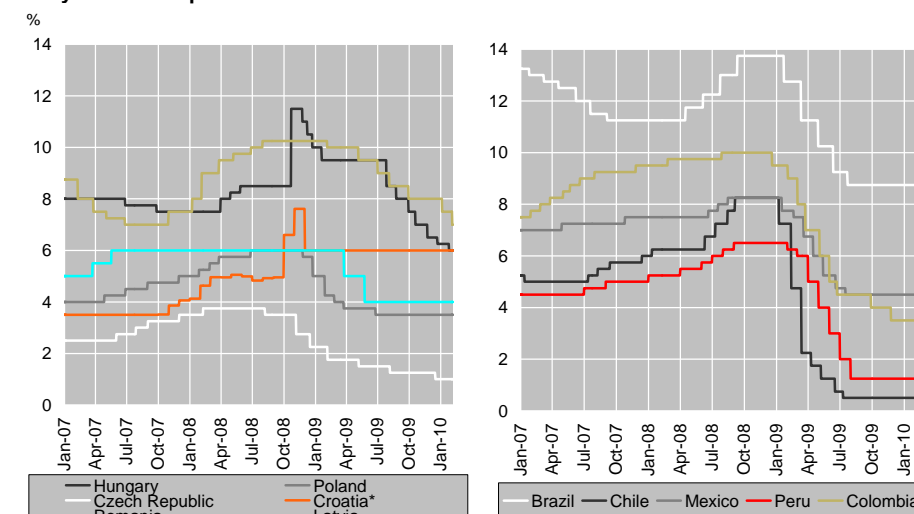
Widespread inflationary pressure characterized both regions when the crisis hit emerging markets in October 2008 and most CESEE and Latin American central banks (with flexible exchange rates) were in an upward interest rate cycle. During the first couple of months after the crisis started to impact emerging markets, central banks thus faced difficult choices. On the one hand they needed to stimulate demand by lowering interest rates. On the other hand they needed to prevent or contain currency depreciation —which may have re-ignited inflation and in some CESEE countries led to adverse balance-sheet effects— by retaining a positive interest rate differential vis-à-vis other countries. Therefore, monetary policy remained very cautious in most CESEE and Latin American countries until the end of 2008. At that time, the severity of the economic downturn became clear and the possibility of global deflation could no longer be excluded.

Towards the end of 2008 most CESEE countries with flexible exchange rates started a process of monetary easing (Hungary after a sizeable interest rate hike in October) (graph 27) and by early-February 2010 they had reduced their policy rates by between 250 and 550 basis points.⁴⁴ Except for the Czech Republic, however, rates remained at higher levels than in major industrialized economies. Among the (quasi-) fixed exchange rate countries, Latvia cut its main refinancing rate by 200 basis points over the course of 2009, while other countries eased monetary conditions mostly by non-standard monetary policy measures.

⁴⁴. In addition, some CESEE central banks intervened verbally or through market operations to support their currencies (e.g. the Czech Republic, Croatia, Hungary, Poland and Romania).

Graph 27: Policy rate developments

Policy rate developments in CESEE and LATAM



At the end of 2008, also Latin American inflation targeting countries (Brazil, Chile, Colombia, Mexico and Peru) reduced interest rates, initially at different speeds, with the majority of them “frontloading” the monetary stimulus. Colombia moved first with a rate cut in December 2008, followed by the other countries. On average, official rate cuts in inflation targeting countries amounted to over 500 basis points over the course of 2009

Non-standard Monetary and Financial Policy Measures

Since the outbreak of the economic and financial crisis, authorities in CESEE and Latin America have taken a range of extra-ordinary policy measures to counter the impact of the crisis on their economies.⁴⁵ Broadly speaking, the aim of these measures was to safeguard financial system stability and to avoid —respectively minimize— spillovers from adverse financial market developments to the real economy.

Most CESEE central banks took liquidity easing measures (e.g. reductions of domestic reserve requirements, broadening eligible collateral and increasing the frequency of auctions). Some countries also agreed on cross-central bank repurchase or currency swap arrangements in order to ease foreign exchange liquidity pressures. More specifically, in the final quarter of 2008, the ECB established agreements on repurchase transactions with Hungary and Poland in order to provide support to central bank operations with a view to euro liquidity provision. In addition, some central banks signed swap arrangements with Sveriges Riksbank (Estonia, Latvia) and Danmarks Nationalbank (Latvia). CESEE central banks did not, however, undertake credit or quantitative easing measures. Governments in CESEE broadened guarantee schemes for bank deposits in order to prevent bank runs.⁴⁶ The possibility of state capital injections into banks was established throughout the region, but banks were generally reluctant to draw on that form of relief, and only Latvia was forced to rescue a failing bank [OeNB (2009)].

⁴⁵ See Petrovic and Tutsch (2009) for an overview of measures taken in EU countries and Ishi, Stone and Yehoue (2009) for an overview of measures taken in 40 emerging economies.

⁴⁶ In accordance with a proposal by the European Commission, all CESEE EU countries as well as Croatia now guarantee deposits up to the equivalent of at least EUR 50.000. Some countries implemented unlimited guarantees.

Most Latin American central banks (notably Brazil, but also others) also set in train a wide range of non-standard monetary policy measures to mitigate the effects of the credit contraction, with particular emphasis on facilitating the provision of dollar funding. This was possible because Latin American central banks had accumulated over USD 500 bn international reserves (about 10% of the region's GDP), partly as a strategy to self-insure against external shocks and volatile capital flows, and partly due to a reluctance to accept the conditionality usually attached to multilateral lending. The strategy was not without costs (or criticism) but this time was nonetheless instrumental to deal with the sudden stop of capital flows.

Latin American central banks took various measures including export credit (e.g. Brazil, Argentina), the refinancing of banking or corporate sector liabilities through the provision of USD (e.g. Brazil, Mexico and Chile), the extension of local currency-denominated liquidity provision via lower reserve requirements (e.g. Argentina, Brazil, Peru, Colombia and Venezuela), broadening of the range of acceptable collateral to the central bank (e.g. Mexico, Argentina) and promoting state banks to facilitate new lending (e.g. Brazil, Chile). Financial sector rescue packages were not needed and financial sector support measures (e.g. Chile, Brazil) were of much lower magnitude than in industrial countries. Latin American central banks also stepped in to mitigate depreciation pressures. In Brazil and Mexico, reserves sold in the spot market for intervention reached 10% and 20% respectively of their international reserves, while intervention in the swap market amounted to an additional USD 32 bn in Brazil during the worst months of the crisis at the end of 2008. A greater relative effort to sustain the currency was apparent in Peru, where the degree of exchange-rate flexibility is limited by the high level of financial dollarization and the risk of stronger balance sheet effects.⁴⁷

All these measures met at least some of their objectives. International reserves proved effective for (temporarily) addressing specific problems in foreign trade financing, refinancing foreign currency-denominated loans and supplying the market with USD. From a broader perspective, the far-reaching changes in capital inflows did not result in a financial crisis in the Latin American region, which is a significant achievement. Government intervention was, however, not able to fully offset the significant tightening of credit conditions in either Latin America or CESEE.

Fiscal Policy

Fiscal policy responses to the crisis varied within and across the two regions. Generally, the fiscal response was determined by two key factors: First, the shape of government balances at the beginning of the crisis (graphs 28 and 29). Second, countries with high external financing needs —mostly in CESEE— needed to take account of a possible weakening of investor confidence which would complicate access to foreign funds.⁴⁸

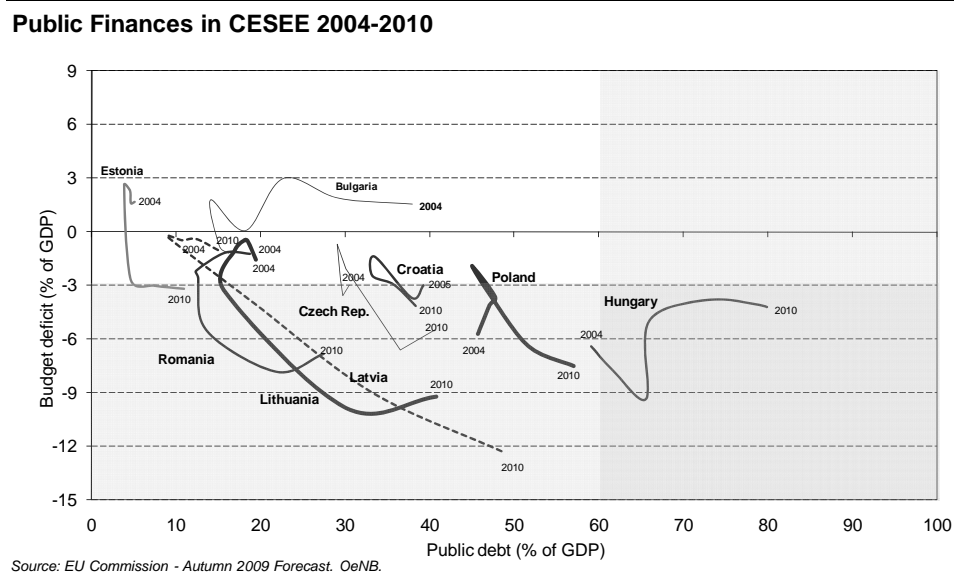
Looking first at the CESEE countries, the Czech Republic and Poland decided on fiscal stimulus packages of around 1% of GDP in 2009 (broadly in line with the EU and the

⁴⁷ For a more detailed account of the measures taken by Latin American central banks see Banco de España (2009).

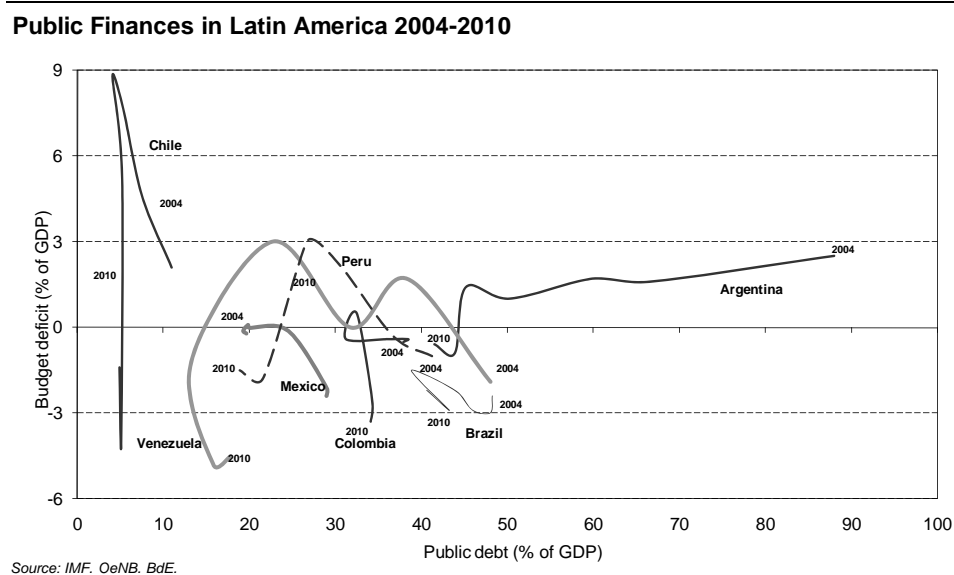
⁴⁸ It should also be noted that most CESEE and many Latin American countries are rather small and open economies. A strong fiscal stimulus would thus not only lead to higher domestic demand but also to an increase in imports. This consideration may have been an additional determinant of the fiscal policy response in some countries.

euro area average). The net impact of fiscal policy measures in Bulgaria, Romania and Hungary was, however, neutral or even deficit-reducing, i.e. pro-cyclical.⁴⁹

Graph 28: Public finances in CESEE (2004-2010)



Graph 29: Public finances in Latin America (2004-2010)



A relatively sound fiscal position allowed most Latin American governments to respond to the economic and financial crisis with a moderately counter-cyclical fiscal

⁴⁹ In 2008 Hungary and Romania reported budget deficits of more than 3% of GDP. Hungary has been subject to an EU excessive deficit procedure since 2004. Bulgaria reported a fiscal surplus in 2008, and puts a lot of emphasis on avoiding fiscal deficits, not least against the background of its currency board.

policy, which is in sharp contrast with the past. The average size of the fiscal packages (1.3% of GDP) has been above the level in the CESEE. Chile was the only Latin American country that was able to put into practice a forceful counter-cyclical fiscal policy, thanks to its fiscal rule that allowed saving funds of up to 12% of GDP. The implementation of the expansionary fiscal plans fell behind schedule in some Latin American countries.

International Support Measures

In addition to national support measures, some countries received financial support from the IMF and other lenders. In Latin America the IMF and the US Federal Reserve, respectively, announced in October 2008 a non-conditional short-term liquidity facility and a swap facility with Brazil and Mexico. The IMF short-term liquidity facility was later changed into the new Flexible Credit Line facility (FCL)⁵⁰ that Mexico and Colombia requested for precautionary reasons, but which was not drawn upon. Taking into account all multilateral and bilateral financing facilities, Mexico had at its disposal an amount of international liquidity close to 8% of GDP, while Brazil 2.3% and Colombia 3%. In addition, Argentina signed a swap agreement with the People's Bank of China in the order of 3.4% of GDP.

In the CESEE region, Hungary, Latvia and Romania received financial support from the IMF, the EU and other international financial institutions. The size of the Stand-By Arrangements (SBA)⁵¹ amounts to some EUR 20 bn for Hungary and Romania (18% and 14% of 2008 GDP, respectively), and EUR 7.5 bn (32% of GDP) for Latvia. In the case of Poland the IMF has approved a credit line amounting to some EUR 15 bn (5% of 2008 GDP) under the FCL facility.

For Hungary, Latvia, Romania, IFI/EU support packages were instrumental in stabilizing their economies and in sustaining private capital flows. They may have also helped support private flows to other CESEE countries, although there is no direct evidence underpinning such spillover effects. In any case, private capital flows to CESEE started to recover from March 2009 onwards when it became clear that IMF resources as well as EU balance-of-payments support facilities for EU Member States would be substantially increased.

Up until the end of 2009, only a part of the committed funds in CESEE was paid out and the unexpected economic weakening made it economically and politically more difficult for the receiving countries to implement the necessary policy changes. In particular, meeting the agreed deficit limits was challenging, even more so if structural fiscal improvements rather than 'quick fixes' were envisaged. Improvements in international financial market sentiment since March 2009, however, reduced the need for some supported countries to draw on these funds.

In early 2009, the 'Vienna initiative' was created to co-ordinate the response of the main public and private stakeholders to the economic and financial crisis in CESEE [EBRD (2009)]. As part of this initiative, EU-based parent banks pledged to refinance and, if needed, recapitalize their CESEE subsidiaries, home governments allowed the parent banks to access national banking sector support packages for operations at home and abroad,

50. Following the IMF definition, an FCL is designed for countries with very strong fundamentals, policies and track records of policy implementation and is particularly useful for crisis prevention purposes.

51. Following the IMF definition, SBAs are designed to help to address short-term balance of payments problems. The financial assistance enables countries to rebuild international reserves, stabilize currencies, continue paying imports and restore conditions for strong economic growth, while undertaking policies to correct underlying problems.

and International Financial Institutions as well as host-country governments gave assurances of financial and policy support. In this context, one can also mention the EBRD's "Vienna Initiative Plus", which aims to address the issue of foreign exchange exposures together with other IFIs as well as home and host authorities by ensuring conducive macroeconomic policies and establishing supporting regulators frameworks.

Overall, it has to be said that the international support measures for Latin America and even more so for the above-mentioned CESEE countries helped to calm financial markets and contributed to the stabilization of most financial market segments after the first quarter of 2009.

5 Conclusions

This paper has compared the impact of the global economic and financial crisis on CESEE and Latin America. Before the crisis, both regions were experiencing economic booms with rapid GDP and credit growth largely driven by capital inflows, especially in CESEE. These booms were driven by common as well as region-specific drivers. Strong world growth and easy global liquidity conditions were among the common factors. Specific features were inter alia positive expectations for EU convergence and future euro adoption in CESEE and the global commodity price rally in Latin America.

Up to the third quarter of 2008, both regions were remarkably resilient against the global crisis. Part of this resilience is reflected by standard vulnerability indicators, which at the onset of the crisis indicated a better fiscal and real economic position as well as more favorable market sentiment than at the beginning of previous crises since the late 1990s. The main exceptions were the heightened external, banking and monetary vulnerabilities in some CESEE countries, precisely in areas that proved to be particularly sensitive in the context of the global economic and financial crisis. The degree of cross-country variation was considerable in the two regions and particularly within the CESEE region, countries displayed substantial differences in their macrofinancial risk profiles.

It appears that improved economic policies have played a significant role in containing macrofinancial vulnerabilities before the crisis, in particular in Latin America, where authorities had learned the lessons from past crises and paid substantial policy and regulatory attention to signs of excessive short term capital flows, credit booms and the formation of potential asset price bubbles. In most CESEE countries large capital inflows and rapid credit growth were perceived as manageable and supportive to the catching-up process, while downside risks were seen as being contained. Measures to dampen credit growth were taken in a number of CESEE countries, but —with the exception of Croatia which took rather comprehensive and stiff measures— the effects were relatively moderate and temporary. Generally, the policy tool-box in CESEE (e.g. as regards the management of capital flows) was constrained by EU accession and the depth of financial integration.

After the collapse of Lehman Brothers in September 2008 the period of resilience ended and both CESEE and Latin America were severely hit by the crisis although the performance of individual countries became ever more differentiated. Initially, the crisis led to massive falls in asset prices including stock prices, fixed income securities, and in some CESEE countries also house prices. In parallel, world trade collapsed and external demand plummeted, which in turn led to a contraction in investment. As the prospect of a major downturn became ever more likely and labor markets worsened, private consumption also took a hit.

In the later part of 2008, nominally flexible exchange rates depreciated substantially. Some central banks allowed this to happen, with weakening exchange rates ex-post proving to serve well as ‘shock absorbers’, mitigating the spillovers of the global economic and financial crisis to the real economy to some extent. Other central banks defended their currencies in order not to jeopardize their exchange rate system and/or to avoid possible negative balance-sheet effects. Some CESEE countries (e.g. Hungary, Latvia and Romania) had to resort to IFI/EU support packages to stabilize their economies. Overall, the more

financially vulnerable as well as the more open countries tended to be most severely affected in both regions.

The financial market turmoil peaked in early 2009. More recently, CESEE and Latin America saw a recovery of equity markets, an appreciation of exchange rates and a fall in risk premia. Financial markets in most Latin American countries recovered to pre-crisis levels or even beyond, but in CESEE —except for risk premia— financial markets did not reach their pre-Lehman levels at the end of 2009.

The crisis also had a major impact on capital flows to both regions which materialized in particular in the final quarter of 2008 and the first quarter of 2009. However, the magnitude of the impact differed again notably, depending on the type of capital inflows and the receiving country. Overall, capital flows moderated more substantially, although from higher previous levels, in CESEE than in Latin America. At the same time, CESEE displayed net inflows also during the crisis, while Latin America recorded outflows in the last quarter of 2008 and the first half of 2009. This difference, however, is partly due to IFI/EU financial assistance to three CESEE countries for which international support packages were instrumental in stabilizing their economies and in sustaining private capital flows. Latin America was less dependent on external financing as it displayed a balanced current account, while the CESEE region had larger financing needs when the crisis hit. More in general, international support measures proved instrumental in restoring confidence and so was the increased role of emerging economies in the international policy discussions, notably in the G20.

In CESEE, a key factor in sustaining overall capital flow dynamics was that intra-group loans of banks remained stable or even expanded. In Latin America, in turn, foreign bank funding was generally much less relevant as a source of finance, since most credit was financed by the local deposit base. On a positive note, the worst-case scenario of a fully-fledged regional meltdown has neither occurred in CESEE nor in Latin America.

As a consequence of the crisis, credit and deposit growth decelerated markedly and banks in both regions are now confronted with increasing non-performing loans (comparatively more pronounced in a number of CESEE countries than in Latin America) and declining profitability, although with a considerable degree of cross-country heterogeneity. Bank capitalization has remained at high levels in all countries under review.

The above-mentioned disruptions in domestic and international financial markets together with the real transmission channels, in particular the plunge in global trade flows, also had a very pronounced effect on real economic developments in CESEE and Latin America from late-2008 onwards, ultimately resulting in severe recessions in most countries in both regions. However, the real economic downturn in 2009 turned out more pronounced in the CESEE region than in Latin America. This can be attributed to the much higher export/GDP ratios and the substantially higher share of manufactured goods compared to Latin American countries, but also to the financial vulnerabilities of a number of CESEE countries.

The policy response to the crisis in both regions focused on standard and non-standard central bank and financial policy actions as well as on fiscal measures. Standard monetary policy remained very cautious in most countries until the end of 2008 when most countries embarked on a process of monetary easing. Nevertheless, in most

CESEE and Latin American countries policy rates remained at higher levels than in major industrialized economies. On a positive note, neither Latin American countries nor most CESEE countries (except for Hungary) had to hike interest rates to defend exchange rates. Since the outbreak of the crisis, authorities in both regions took also a range of extra-ordinary policy measures to stabilize financial systems and to reduce spillovers to the real economy. Fiscal policy responses to the crisis varied within and across the two regions and were mainly determined by the fiscal situation at the beginning of the crisis and the threat of a possible weakening of investor confidence. Only a few CESEE countries were in a position to run —moderate— counter-cyclical fiscal policies, while others had to engage in pro-cyclical tightening to retain or regain investor confidence. In contrast, relatively sound fiscal positions prior to the crisis allowed most Latin American governments to respond to the crisis with —at least moderately— countercyclical fiscal policy although their implementation fell behind schedule in some countries.

The economic downturn seems to have reached a bottom, although the pattern and pace of economic recovery is still rather unclear. The growth outlook for Latin America improved on the back of global market sentiment since March 2009, and stabilized for CESEE countries. The main reasons for the better prospects for Latin America over the near-term can be traced back to the renewed increase in commodity prices and the more limited impact of the financial shock due to reduced vulnerabilities and agile policy responses. The growth outlook in advanced economies represents, however, a major uncertainty for both regions.

For the CESEE region integration into European banking networks turned out to be an asset during the crisis (while it certainly had also played a role in boosting the boom before the crisis). While financial vulnerabilities played a key transmission role in several CESEE countries, their high dependence on the export of manufactured goods made for a particularly strong impact of the trade channel, as world trade and export demand collapsed in late 2008. The trade channel impacted Latin America mostly through the drop in commodity prices and export demand.

The EU anchor has also been beneficial for CESEE countries, as it provides a functioning institutional and regulatory framework that promotes the convergence process and is expected to prevent extreme policy slippages. Latin America, in turn, has benefited from policies that have reduced its vulnerabilities prior to the crisis and have been able to become countercyclical after it, contrary to past experiences.

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